



Subsurface Investigation Work Plan

Dated:

May 8, 2006

Site:

**Crescent Shell
890 L Street
Crescent City, California 95531**

CASE # 1TDN059

Prepared for:

Big Oil & Tire Co.

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1.0 EXECUTIVE SUMMARY

At the request of Big Oil & Tire Co. (BO&T), the current property owner, SounPacific Environmental Services (SounPacific) has prepared this *Soil Remediation and Subsurface Investigation Work Plan (Work Plan)* for the BO&T site at located at 890 L Street, Crescent City, California (Crescent Shell). The *Work Plan* addresses the remediation of petroleum impacted soils identified in the area of Crescent Shell's (the Site's) former USTs and dispensers, and presents the scope of work to further delineate the groundwater contamination that is present both onsite and downgradient of the Site. A summary of proposed work is outlined below.

- Laboratory analytical results from previous investigations has identified an area, east of the former USTs and in the area of the former dispenser islands at the Crescent Shell site, where remedial excavation of known contaminated soils is required. The soil remediation will consist of excavating and treating all contaminated soil in excess of 100 ppm TPHg. The excavation will occur in the area east of the former USTs and in the area of the former dispenser islands, and will cover an area of approximately 3,000 square-feet, and to an average depth of 12 feet bgs. The contaminated excavated soils will be treated onsite using open aeration with some enhanced natural attenuation. Once treated to levels below 100 ppm TPHg, the soils will be used to backfill the original excavation.
- A subsurface investigation will be conducted at the Site to further delineate the offsite lateral and vertical extent of the groundwater contamination. The investigation will consist of drilling an initial five (5) borings for the purpose of groundwater delineation. Additional step-out borings may be proposed if groundwater from the original proposed borings is determined, using field screening, to be impacted with excessive hydrocarbons. Groundwater samples will be collected and submitted for laboratory analysis to determine the lateral extent of the groundwater contamination.

- Based on the results from the borings, both deep and shallow groundwater monitoring wells will be installed to assess and monitor both the lateral and vertical extent and migration of the contaminated groundwater. The number and location of the wells will be determined by groundwater analytical results from the proposed groundwater delineation borings. SounPacific will request accelerated turnaround times for the groundwater analytical from the proposed borings for the purpose of installing the wells during this phase of work. Following the installation the new wells will be incorporated into the existing groundwater monitoring program to monitor contaminant levels and contaminant migration over time, and assist in calculating the groundwater flow gradient and direction.
- Monitoring wells will also be installed onsite. These include a deep well on the eastern margin of the Site, adjacent to existing well MW-5 to evaluate any deep groundwater contamination, a deep and shallow well set to assess and monitor groundwater contamination at the Site of the dispenser, and a replacement well for MW-1, which will likely be destroyed during the planned excavation of the contaminated soil.
- A separate Report of Findings (RoF) will be prepared for both activities. The RoF will document the activities and findings of the proposed excavation and investigation. All wells will be surveyed according to Geotracker survey guidelines and all analytical results, boring logs, and monitoring well location data will be uploaded to the Geotracker database after the RoFs are submitted.

2.0 INTRODUCTION

This *Work Plan* is for the planned site investigation at the BO&T property located at 890 L Street in Crescent City, (Crescent Shell). The *Work Plan* was developed in response to the North Coast Regional Water Quality Control Board (NCRWQCB) correspondence dated October 19, 2005, which requested SounPacific to prepare a Work Plan to further delineate the extent of contamination downgradient of the offsite monitoring well MW-8. The Work Plan also includes the scope of work for the planned removal and treatment of petroleum-impacted soils at the Site.

2.1 Site Location and Description

The Site is located in downtown Crescent City, California, with a physical street address of 890 L Street, Crescent City, California (Figure 1). The lot is currently vacant. Drainage is handled by culverts that flow towards the ocean. Sewer and water services are supplied by public utilities (Figure 2). The Site is located at the corner of Ninth Street and L Street in Crescent City, California. L Street is currently the southbound lane of U.S. Highway 101. The surrounding vicinity includes a collection of commercial and residential properties. Skagg Auto Repair lies adjacent to the southwestern property line. Various residential properties border the southeastern side of the Site, and L Street and Ninth Street run along the northeast and northwest sides of the property, respectively. A review of county records indicates that there is an ongoing investigation directly to the east of the Site across L Street.

2.2 Geology and Hydrogeologic Setting

The Pacific Ocean is located approximately one mile to the west. The Site elevation varies between 36 feet and 38 feet above mean sea level (amsl). The Site topography is relatively flat with the surrounding topography consisting of terrain that descends in an east to northeasterly direction (Figure 1). Depth to groundwater at the Site has ranged between approximately 2.6 feet bgs and 13.2 feet bgs, with the groundwater elevations ranging between 23.95 to 34.23 feet amsl (Table 1). Groundwater gradient is relatively flat and towards the east to southeast. The

gradient for the January 2006 monitoring event is shown in Figure 3.

2.3 Current Site Usage & UST History

SounPacific understands that BO&T currently owns the property and is the response party for the Site. According to information collected from historical reports and documentation, in February 1989, three (3) 5,000-gallon gasoline USTs and one (1) 4,000-gallon gasoline UST were lined with fiberglass to meet the new regulatory compliance standards. In October 1990, three (3) 550-gallon USTs were removed. In April 1995, one (1) 550-gallon waste oil UST and one (1) 1,000-gallon heating oil UST were removed. In January 2001, Beacom Construction of Fortuna, California, (Beacom) removed three (3) 5,000-gallon unleaded gasoline USTs and one (1) 4,000-gallon unleaded gasoline UST. Currently there are no known USTs at the Site.

3.0 PREVIOUS INVESTIGATIONS

A file review conducted at the Del Norte County Health Department (DNCHD) yielded the following historical information. It should be noted that many details in the county files, concerning the historical sampling information at the Site, appear to be incomplete:

3.1 1995 Preliminary Site Assessment (by Patric Lassiter)

On March 22, 1995, two (2) soil borings (B-1 and B-2) were drilled at the Site to collect soil and groundwater samples to complete a preliminary site assessment of the Site (Figure 4). Analysis of the two samples collected, reported minimal concentrations of Total Petroleum Hydrocarbons as diesel (TPHd) (< 5 ppm) sample from B-1 only (Table 2). Groundwater analytical reported elevated concentrations (> 1,000 ppb) of TPH as gasoline (TPHg), benzene, toluene, xylenes, and ethylbenzene (BTXE), and TPHd in both groundwater samples (Table 3).

3.2 1995 UST Removal (Beacom)

On April 21, 1995, Beacom Construction of Fortuna, California (Beacom), removed one 550-

gallon waste oil UST and one 1,000-gallon heating oil UST. Out of six (6) soil samples collected (B.P. CC W- Oil Pipe, Oil Tank 5' South, Pipe Heat Oil, B.P. CC South 5', B.P. CC North 5', Oil Tank North 5') from the excavation sidewalls, TPHd and TPH were reported at levels just above the reporting limits in only one (1) sample, which was from the heating oil UST pit (Table 2). One (1) groundwater sample was collected from the excavation pit; in which no petroleum hydrocarbons were detected above laboratory detection limits (Table 3).

3.3 1997 Subsurface Investigation (CGI)

On September 29 and 30, 1997, CGI performed an investigation to define the lateral extent of the subsurface contamination. The investigation consisted of drilling eight (8) soil borings (B-3 through B-10) and installing three (3) monitoring wells (MW-1 through MW-3) (Figure 4). Out of 20 soil samples collected, nine samples from six borings reported concentrations of hydrocarbons above detection limits. Concentrations of TPHg, BTXE, and TPHd above 100 ppm were detected in borings MW-1 and B-3, located adjacent to the USTs (Table 2). Of the five (5) groundwater samples collected, laboratory analytical reported concentrations of TPHg above 100 ppb in all five samples. Groundwater from borehole B-9 reported concentrations of TPHg and methyl tertiary butyl ether (MTBE) at concentrations greater than 20,000 ppb (Table 3).

3.4 1997-1998 Groundwater Monitoring Program (CGI)

A groundwater monitoring program was initiated on October 10, 1997, and continued for a period of three quarters. Groundwater samples from all three monitoring wells (MW-1, MW-2, and MW-3) were collected and analyzed. This monitoring program was concluded on July 10, 1998.

3.5 2001 UST Removal (Beacon)

In January 2001, Beacom removed three (3) 5,000-gallon unleaded gasoline USTs and one (1) 4,000-gallon unleaded gasoline UST. Twelve soil samples (B-1, B-2, B-3, B-4, E-1, E-2 E-3, E-

4, E-5, E-6, E-7, and E-8) were collected and a groundwater sample (E-GW) was procured from the excavation pit (Figure 4). Laboratory analytical reported elevated concentrations of TPHg in one soil sample (> 100 ppm) and one groundwater sample (> 50,000 ppb) onsite (Tables 2 & 3). During the removal of the USTs, monitoring well MW-3 was destroyed.

3.6 2001 Subsurface Investigation (SounPacific)

On April 2 and 3, 2001, SounPacific conducted a subsurface investigation at the Site that consisted of drilling six (6) soil borings (B-11 through B-16) (Figure 4) for the collection of soil and groundwater samples. Fourteen soil samples were collected and analyzed, of which five samples from three borings reported TPHg. Of these samples, concentrations of TPHg exceeding 100 ppm were reported in one sample from borings B-14 and two samples from B-15. Both borings were located adjacent to the previous dispenser islands (Table 2). From each of the six borings, various depth groundwater samples were collected. A total of 18 groundwater samples were collected, of which nine reported the presence of TPHg, up to concentrations of 902,000 ppb, along with elevated concentrations of BTXE, and TPHd. These samples not only showed a lateral distribution of contaminants but also a vertical distribution of TPHg. The highest levels of contamination were reported in groundwater samples from boreholes B-14 and B-15 (Table 3). Also, quarterly monitoring of the two onsite monitoring wells (MW-1 and MW-2) was initiated on May 5, 2002 (Tables 1 and 4).

3.7 2003 Subsurface Investigation (SounPacific)

During April 14 through 16, and April 22, 2003, SounPacific performed a subsurface investigation. The investigation consisted of drilling six offsite soil borings (B-18 to B-20 and B-25 to B-27) and five onsite soil borings (B-17 and B-21 to B-24) (Figure 4). Borings B-24, B-25, B-26, and B-27 were converted to monitoring wells MW-7, MW-4, MW-5, and MW-6, respectively. Out of 58 soil samples collected, 19 samples from nine borings reported hydrocarbon contamination. Laboratory analysis of soil samples from borings B-19 and B-26 reported concentrations of TPHg and BTXE above 1,000 ppm, which were located offsite on Highway 101, downgradient from the previous dispenser islands and USTs (Table 2).

Laboratory analytical also reported concentrations of TPHg and BTXE above 10,000 ppb in groundwater samples from boring B-19 (Table 3). At this time, SounPacific recommended that a source delineation work plan be prepared. This work plan would include: additional borings in the vicinity of borings B-14 and B-15 to assess contaminant degradation over time; additional borings to the west, north, and south of boring B-15 to define the boundaries of the soil plume; and additional borings across Highway 101, downgradient from boring B-19, to assess the possible downgradient migration of the soil and groundwater plumes.

3.8 2005 Subsurface Investigation (SounPacific)

On February 28, March 1, 4, & 13, and April 11, 2005, SounPacific performed a subsurface investigation at the Crescent Shell site to further delineate the down gradient extent and source of the contamination that consisted of drilling three (3) offsite soil borings (B-33 through B-35) and five (5) onsite soil borings (B-28 through B-32) (Figure 4). Of the 31 soil samples collected, 15 samples from five borings reported hydrocarbon contamination. Laboratory analytical reported concentrations of TPHg above 1,000 ppm in soil samples from boring B-29, which was in the vicinity of the previous boring B-15 (Table 2). In a four year period, these concentrations decreased by a factor of 10^3 . Concentrations of TPHg above 1,000 ppm were also detected in soil samples from boring B-30, located in the vicinity of the previous USTs. Out of eight groundwater samples collected, all samples reported concentrations of TPHg, BTXE, and TPHd (Table 3). The NCRWQCB requested that one of the downgradient borings be converted to a monitoring well, based on soil and groundwater analytical results. Boring B-34 was converted to monitoring well MW-8, and incorporated into the Site's groundwater monitoring program.

3.9 Groundwater Monitoring Program (SounPacific)

In May 2002 quarterly groundwater monitoring of the two (2) onsite monitoring wells (MW-1 and MW-2) was reinitiated. The third monitoring well (MW-3) was destroyed during the 2001 removal of the gasoline USTs. The program has continued from May 2002 to the present. In April 2003, four (4) additional wells (MW-4, MW-5, MW-6, and MW-7) were installed to monitor the migration of the contamination, and were incorporated into the ongoing program. In

March 2005, an offsite monitoring well (MW-8) was constructed, and incorporated into the groundwater monitoring. Since the implementation of the monitoring program, the groundwater flow direction has consistently been towards the east and southeast. Petroleum hydrocarbons have consistently been reported in wells MW-1, MW-2, MW-5, and MW-8, but have been generally absent in the remaining wells, MW-4, MW-6, and MW-7. The full groundwater monitoring results are presented in Tables 1 and 4.

4.0 SCOPE OF WORK

The previous work at the Site has determined that soil contamination is present in the subsurface soils near the former UST system and former dispenser island area that requires remedial action and groundwater contamination has migrated offsite, however the full lateral and vertical extent of the groundwater contamination is unknown and requires further investigation. The scope of work in this Work Plan is two-fold and includes: (1) the remediation of the identified contaminated soils, and (2) the lateral and vertical delineation of the petroleum-impacted groundwater. An outlines of the proposed work for each of these tasks is presented below.

4.1 REMEDIATION OF CONTAMINATED SOILS

Previous subsurface investigations have indicated that petroleum hydrocarbon contamination is present in the subsurface soils near the former UST system and former dispenser island area (Figure 4). Previous investigations have identified soils as deep as 12 feet bgs that report TPHg concentrations in excess of 5,000 ppm. To address the contaminated soil, SounPacific proposes that any contaminated soil that exceeds a clean-up standard of 100 ppm TPHg, by laboratory analyses, be excavated and treated.

4.1.1 Soil Excavation

Previous subsurface investigations have indicated soil contamination that requires remedial action is present in two adjacent areas, the eastern side of the former USTs and the dispenser island. The proposed extent of the excavation is shown in Figure 5. Although not confirmed, it

is likely that these areas are connected. Excavation will be conducted using a backhoe, excavator, or similar equipment. Based on available information, it is expected that the excavation will cover a surface area of approximately 3,000 square-feet to a maximum depth of 12 feet bgs. Based upon these dimensions, approximately 1,300 cubic yards of soil may be excavated. The actual depth will be determined in the field based on the stability of the excavation and the depth to groundwater. Groundwater in the proposed area of excavation has historically ranged from three to eleven feet bgs. Existing monitoring well MW-1 is in the area to be excavated and will likely be destroyed in the removal process. If MW-1 is destroyed, all applicable permitting will be processed.

4.1.2 Soil Screening and Soil Sample Collection

To minimize the volume of soil that is excavated, all removed soil will be screened as the excavation progresses. Field screening will consist of visual observations, i.e. discoloration, and vapor analysis using a portable organic vapor analyzer (OVA), with a PID detector. As the excavation progresses, each backhoe bucket of excavated material will be screened, by placing the OVA probe tip against the soil in the bucket. On a regular basis, i.e. every 10th bucket, a sample will be collected and placed in a sealable plastic bag, vapors will be allowed to collect in the bags headspace for approximately five (5) minutes, at which time the OVA probe will be inserted into the bag and the hydrocarbon concentrated recorded. This process will continue in any given vertical or lateral direction until the headspace values are consistently below 400 ppm, the pre-determined field screening clean-up standard. Field screening values will be logged on a site map and included in the project field notes.

Soil excavation will continue until OVA screening indicates that the field screening clean-up standard of 400 ppm has been met in the sidewalls and floor (dependant on the presence of groundwater) of the excavation. At that time, conformation samples will be procured for laboratory analysis. Confirmation samples will be collected from the sidewalls of the excavation on a basis of one (1) sample every fifteen (15) feet laterally and five (5) feet vertically from that surface. In addition, if confirmation samples are collected from the floor of the excavation, they will be collected on a basic of one (1) sample per 250 square feet of the excavation floor. The

locations of all confirmation samples will be logged on a site map and included in the project field notes.

Following collection of the confirmation samples they will be submitted to a local certified laboratory for conformation analysis. To clarify that the field clean-up screening values with the confirmation clean-up standard of 100 ppm, 20% of the confirmation samples will be analyzed on an accelerated turn around basic i.e. 24 hours turnaround time (TAT). The results will be compared with the corresponding field screening value. And based upon those results additional excavation may be required. The screening values with the OVA are strongly related to the particular constituent contamination onsite and its vapor pressure as well as site conditions that affect volatilization, such as the Site's ambient temperature in the pit cavity. These parameters will be incorporated into the screening.

4.1.3 Soil Stockpile

As the excavation progresses, the removed soil will be separated based on field screening results, with separate stockpiles being developed for the soil with OVA values greater than 400 ppm and the soil with OVA values less than 400 ppm. The soil designated with OVA values greater than 400 ppm will be placed on plastic sheeting, which will be bermed around its edges to prevent run-off. The entire site will be secured with steel fencing and all open excavations will have one side sloped for safety. The stockpile of soil with OVA values less than 200 ppm will be stockpiled directly on the ground. When the excavation activities are complete, composite samples will be collected for laboratory analysis. Sampling of the stockpiles will be conducted on a grid pattern, on a basis of one sample per 50 cubic yards of soil from the suspected contaminated stockpile and one sample per 100 cubic yards from the suspected non-contaminated stockpile.

4.1.4 Treatment of Soils

The treatment and disposal of the excavated soil will be dependant on the nature and

contaminant concentrations, along with the volume of stockpiled soil. Based on laboratory analytical results, soil with average TPHg levels less than 100 ppm and/or TPHd and TPHmo levels less than 250 ppm will be left onsite and used onsite in the backfilling of the UST system excavation. Stockpiled soils that have average TPHg levels greater than 100 ppm and/or TPHd and TPHmo levels greater than 250 ppm, will be spread thinly (less than three (3) feet thick) onsite and allowed to remediate by open aerate. To assist in the remedial process, 25 pounds of ammonia nitrates, standard garden variety, will be spread on the soil to enhance any natural bio-remediation. The spread soil will also be “wetted-down” to assist any natural attenuation process and provide “dust control”. This process may be repeated based onsite conditions. After approximately four (4) weeks, the contaminated stockpile soils will be retested. If clean-up standards have been met, the soil will be left onsite and used as backfill in the excavation. However, if clean-up standards have not been met, the contaminated soil will be rototilled and additional ammonia nitrates and water will be added, along with additional retesting that will be conducted after an additional four weeks. This process will be continued for a maximum of four (4) months, if after that time cleanup-standards have not been met, the disposal of the soil will be re-evaluated

4.1.5 Soil Analytical

All soil samples will be collected following the EPA guidelines. Soil samples selected for laboratory analysis will be analyzed TPHg, BTXE, and five (5) fuel-oxygenates by **EPA Method 8260b**, and TPHd and TPHmo by **EPA Method 8015**. All laboratory analysis will be conducted by a state certified laboratory. With the exception of the accelerated TAT analysis discussed in section 4.1.2, all laboratory analysis will be conducted on a normal turnaround basis.

4.1.6 Treatment of Excavation Groundwater

Previous site investigations have reported seasonal groundwater at the Site to be as shallow as three (3) feet bgs; it is therefore likely that groundwater will be present in the excavation pit.

Also based on laboratory analysis of groundwater in this area of the Site, it is expected that any groundwater that accumulates in the excavation will be impacted with petroleum hydrocarbons. Therefore, to assist in any future groundwater remedial action, any groundwater that accumulates in the excavation will be removed, via pumping, into a holding tank and stored onsite. From the groundwater storage, one (1) sample will be collected and submitted for laboratory analysis. Based on the analytical results, the stored groundwater will either be disposed into the local sanitary sewer system directly or following onsite treatment with granular activated carbon filtration. Disposal of the water will not be conducted without approval from the local sanitary sewer department. This process may be repeated, whilst the excavation remains open and groundwater is present.

4.1.7 Groundwater Analytical Methods

Groundwater samples will be collected following standard EPA protocols. Based upon historical analytical results, all groundwater samples will be analyzed for TPHg, BTXE, five (5) fuel-oxygenates **following EPA Method 8260b** and TPHd and TPHmo using **EPA Method 8015**. All laboratory analysis will be conducted by a state certified laboratory on a normal TAT.

4.1.8 Site Safety

Prior to the conducting of any excavation activities, a Site Safety Plan (SSP) will be prepared, that will require to be reviewed and agreed to by signature of all parties partaking in the excavation activity. As a minimum, the SSP will require that, all involved parties have had OSHA-approved safety training, access into the excavation is restricted, and that the excavation is adequately secured at all time, when excavation and remedial activities are not being conducted.

4.1.9 Reporting

Following the completion of the excavation process, the initial stockpile sampling, and the first month of remedial action, a report will be prepared that documents all activities and findings.

The report will be submitted approximately 75 days after the initial sampling event. If it is determined that the remediation of the soils requires additional time, brief summary letter reports will be submitted on a monthly basis.

4.2 Groundwater Investigation and Evaluation

Groundwater that is impacted with petroleum hydrocarbons and has migrated from the Sites former UST system and dispensers has been identified at the Site. This contaminated is widespread throughout the eastern portion of the Site, and has migrated offsite to the east, beneath L Street (US Highway 101), and on to the adjacent property. However, the full lateral and vertical extent of the groundwater contamination has yet to be defined. Therefore future site evaluation is proposed, with the objective of the proposed investigation being as follows:

- Determine the full lateral extent and distribution of the identified groundwater contamination.
- Determine if any vertical migration of contaminants has occurred, and if so what is the extent and the corresponding levels.
- Determine if groundwater contaminant levels are at a level that requires remedial action.

4.2.1 Groundwater Investigation

Previous site investigations have determined that contaminated groundwater has laterally migrated in excess of 120 feet downgradient (to east) of the former UST. These investigations have also identified three boring locations (B-11, B14, and B-15), where grab groundwater sampling indicates the vertical migration of petroleum hydrocarbons in the groundwater. To evaluate the distribution of petroleum hydrocarbons in the groundwater and to meet the objectives of the NCRWQCB correspondence in their letter of October 19, 2005, to SounPacific the proposed scope of work of the project will include the following:

- The drilling and sampling of an initial five (5) groundwater delineation borings. These

borings will be located down-gradient and cross-gradient of monitoring well MW-8 for the collection of groundwater samples to assess the lateral extent and offsite levels of the groundwater contamination.

- Field screening of all collected boring grab groundwater samples to determine if additional step-out borings are required.
- Determine the nature and levels of the contamination by:
 - Field screening of all groundwater samples using visual observations and vapor headspace analysis using an OVA with a PID detector to assess the presence of contamination.
 - Analysis of groundwater for TPHg, BTXE, fuel oxygenates TPHd, and TPHmo.
- Conversion of select borings into groundwater monitoring wells based on groundwater analytical results from the proposed borings.
- Installation of new onsite monitoring wells to assess and monitor the vertical and lateral extent of the groundwater contamination
- Incorporation of all the new monitoring wells into the ongoing quarterly groundwater monitoring plan until further notice to evaluate groundwater contamination and obtain an understanding of the lateral and vertical migration of contamination.

The actions and details to implement this scope of work are following:

4.2.2 Sampling Locations

To evaluate the offsite vertical and horizontal extent of petroleum hydrocarbons in the groundwater, five (5) Geoprobe® borings (PB-36 through PB-40) will be drilled for the collection of groundwater samples. All borings will be drilled with the use of a truck-mounted direct-push Geoprobe® drill-rig. The rationales and objectives for the proposed borings are

presented below. However, it should be noted that the location of the borings are subject to change based upon the presence of utilities and other obstructions. The proposed locations for the proposed borings are shown in Figure 6.

Proposed Boring PB-36

Proposed boring PB-36 will be located offsite and approximately 55 feet north of well MW-8/B-34, and 25 feet north of previous boring B-33, both of which reported elevated levels of groundwater contamination. The purpose of this boring will be to investigate the lateral extent of groundwater contamination that may be present to the north of well MW-8/B-34 and B-33. The boring will also be used to assess any vertical migration of groundwater contaminants. The boring will be drilled to a total depth of approximately 36 feet bgs, with groundwater samples collected at depths of 12 feet, 24 feet, and 36 feet bgs, using standard geoprobe technology. Based upon previous investigation, no impacted soil is expected to be encountered; however, one (1) soil sample will be collected from the surface 12 feet from the boring for laboratory analysis. Groundwater samples will be collected, subjected to field screenings, and submitted for laboratory analyses. Details regarding field screening are described later in this document. Based upon the field screening, additional step-out borings may be drilled and sampled.

Proposed Boring PB-37

Proposed boring PB-37 will be located offsite and positioned approximately 55 feet northeast of well MW-8, and 25 feet east of former boring B-33, which reported 3,300 ppb TPHg during the March 2005 investigation. The purpose of this boring will be to investigate the downgradient lateral extent of the groundwater contamination that may be present to the northeast of well MW-8. The boring will be drilled to a depth of approximately 36 feet bgs, using continuous core direct-push drilling technology. This will allow a detailed understanding of the subsurface lithology. Although no soil contamination is believed to be present in this area, one (1) soil sample will be retained for laboratory analysis. However, all soil samples will be subject to field screening using visual observations and headspace analyses with an OVA (for methodology see section 4.1.2). Boring B-37 will only be used to assess the lateral extent of the groundwater contamination, hence only a grab water table groundwater sample will be collected using a temporary well point installed at a depth of approximately 12 feet below ground surface (bgs).

This depth is subject to change based on the depth to groundwater at the time of the investigation.

Proposed Boring PB-38

Proposed boring PB-38 will be located offsite and approximately 55 feet east of well MW-8. The purpose of this boring will be to investigate the extent of groundwater contamination that may be present to the east and downgradient of well MW-8. The boring will be drilled and sampled in a manner similar to proposed borings PB-36.

Proposed Boring PB-39

Proposed boring PB-39 will be located offsite and positioned approximately 55 feet southeast of well MW-8 and 35 feet east of former boring B-35, which reported 810 ppb TPHg during the March 2005 investigation. This boring will be to investigate the extent of groundwater contamination that may be present to the southeast of well MW-8. The boring will be drilled and sampled in a manner similar to borings B-37.

Proposed Boring PB-40

Proposed boring PB-40 will be located offsite and positioned approximately 55 feet south of well MW-8 and 30 feet south of previous boring B-35. The purpose of this boring will be to evaluate the cross-gradient extent of groundwater contamination that may be present to the south of well MW-8 and boring B-35. This boring will be to investigate the extent of groundwater contamination that may be present to the southeast of well MW-8. The boring will be drilled and sampled in a manner similar to proposed borings PB-36.

Based on field screening, along with laboratory analysis, if available within a suitable time frame, additional “step-out” borings may be installed. The location of any step-out borings will be determined in the field by the onsite project geologist, and will be dependant on the ability to obtain the required access agreements and permits. Any “step-out” will be drilled and sampled in a manner similar to the other borings proposed as part of this phase of the Site investigation.

Following sample collection, certain borings will be converted into ground water monitoring

wells. At two of the new monitoring well locations, a second well will be installed in order to monitor the vertical extent of any groundwater contamination. The number and locations of the proposed monitoring wells will be determined during the investigation after groundwater analytical results are reviewed from the proposed boring groundwater samples.

4.2.3 Direct-Push Drilling

All borings from which soil samples will be collected will be drilled with a truck mounted hydraulic drill rig using standard continuous core, direct-push drilling. All drilling activities will be conducted by a State-licensed (C-57) driller. Soil samples will be visually inspected in the field, described, and screened for organic vapors using an OVA. Soil samples will be inspected and documented by the project geologist for lithologic documentation of soil condition and classification using USGS standards. All sample tailings will be stockpiled and stored onsite for disposal.

4.2.4 Geoprobe Drilling

Borings from which only groundwater samples will be collected will be drilled with a truck mounted hydraulic drill rig using standard geoprobe direct-push drilling technology. All drilling activities will be conducted by a State-licensed (C-57) driller. No soil samples will be conducted in borings drilled using geoprobe technology.

4.2.5 Grab-Groundwater Sampling Methods

Grab groundwater samples will be collected by one of two methods. In borings where multi-depth samples are to be collected, geoprobe methodology will be used. This involves the Geoprobe® hollow rod being advanced to the selected sample depth, i.e. 24 feet bgs, where the rod is pulled back exposing a stainless steel screen through which the groundwater at that depth entered the screen pipe. Tubing with a Waterra check valve is inserted down the rod. Simple up and down motion of the tubing is normally sufficient to collect a water sample of sufficient volume to fill all the sample containers. After sample collection, the rods and screen are

removed, decontaminated, and the operation is repeated at a deeper depth. In this project, when using geoprobe technology depth specific groundwater samples will be collected at depths of 12 feet, 24 feet, and 36 feet bgs from wells PB36, PB-38, and PB-40. At locations where soil sampling is scheduled and it is only planned to collect a single water-table groundwater sample, a temporary well point will be installed that consists of small diameter (typically one (1) inch) PVC screen that will be inserted to the desired sampling depth. No well development will be conducted; however, the depth to water will be measured and recorded prior to and after the collection of the sample. The groundwater sample will be collected using a pre-cleaned or one-time use disposable bailer or similar appropriate equipment. The well point will be removed from the boring following the collection of the groundwater sample and the boreholes will be grouted in accordance with industry standards.

All collected groundwater samples for laboratory analysis will be labeled, stored in appropriate sample containers, placed in coolers with ice, and kept at temperatures at or below four degrees Celsius for transportation under chain-of-custody to a State certified laboratory for analysis.

4.2.6 Groundwater Screening Method

To determine if additional step-out borings are necessary to laterally define the extent of groundwater contamination and assist in the placement of future groundwater monitoring wells, SounPacific propose the following groundwater screening procedure. As groundwater samples are procured from the proposed borings or additional step-out borings, they will be analyzed in the field using a portable OVA to determine the approximate hydrocarbon concentration. Following the collection of groundwater sample, a pint mason jar will be half-fill with a portion of each sample, not required for laboratory analysis, after which the opening will be covered with a cross lased polymer seal to prevent any hydrocarbon vapor from escaping and then agitated, allowing the remaining head space a chance to collect any hydrocarbon vapors. After a few minutes an OVA probe will be pushed through the seal into the groundwater headspace for hydrocarbon analysis. If OVA readings are greater than 10 ppm, an additional step-out boring in the same direction from monitoring well MW-8 as the boring that was analyzed will be considered. Using this field screening method, SounPacific will be able to investigate a greater

area, and not have to wait for laboratory analytical results when proposing adjacent groundwater delineation borings down-gradient and/or cross-gradient from monitoring well MW-8.

4.2.7 Groundwater Monitoring Wells

At a minimum, three of the proposed boring and/or step-out boring locations, i.e. PB-38, from which grab groundwater samples are collected, will have groundwater monitoring wells installed (MW-11, MW-12, and MW-13). At each location, two monitoring wells (shallow and deep, e.g. MW11 and MW11D) will be installed to assist in the evaluation and monitoring of the vertical migration of any contaminants. These wells will consist of a shallow well (<20 feet bgs) and a deep well (approximately 45 feet bgs). The number and location of these wells will be determined by groundwater analytical results from the borehole groundwater samples. The proposed accelerated TAT on the borehole groundwater analytical will assist in the placement of the monitoring wells to be installed.

In addition, a deep well (MW-5D) will be installed adjacent to existing monitoring well MW-5, a set of wells (MW-9 and MW-9D) will be in the area of former boring B-29, and a replacement well (MW-10) will be installed for existing well MW-1, which will likely be destroyed during the proposed soil excavation discussed in section 4.1. The proposed locations of these wells are shown on Figure 6. Each monitoring well will be installed using a truck-mounted drill-rig equipped with eight (8) inch, outside diameter hollow-stem augers. As the drilling progresses soil samples will be collected at five (5) feet intervals for lithological description. No soil samples will be retained for laboratory analysis, unless field screening indicates the presence of contamination. Following the installation of the wells, a licensed surveyor will determine the elevation and location of each monitoring well at the Site to a status datum point according to Geotracker specifications as required by the NCRWQCB. All data will be entered into the Geotracker database using the new x, y, z coordinate system. Details regarding the construction of both the deep and shallow groundwater monitoring wells are presented below.

4.2.7.1 Shallow Wells

Based on historical data, the maximum depth of the shallow or water-table wells is not

anticipated to exceed 20 feet bgs. However, actual well screen placement and total depth will be based on groundwater level measurements encountered in the field and historical data. The monitoring wells will be constructed of two-inch diameter, clean, flush-threaded, two-inch diameter PVC well materials. The well screen itself will not exceed 15 feet in length and will consist of 0.02-inch machine cut slots. In each well, a filter pack of #2 1/2 sand will be placed in the annular space between the well casing and boring walls, and extend from the bottom of the boring to approximately 1.0 foot above the screened interval. Following placement of the sand filter pack, each well will be surged with a surge block in an effort to settle the sand pack. Once field observations indicate that the sand pack has settled, the filter pack will be sealed by a one-foot layer of hydrated bentonite. The remaining annular space will be filled with cement bentonite grout, and surface construction of the wells will be completed with a locking, waterproof, flush mount, traffic-rated cover or a locking steel monument. Proposed shallow monitoring well construction details are shown in Figure 7. Some deviation of the well construction may occur based upon groundwater level measurements at the time of drilling.

4.2.7.2 Deep Wells

Following the completion of the groundwater sampling and any lithology study, each monitoring well will be installed using a truck-mounted drill-rig equipped with eight (8) inch, outside diameter hollow-stem augers. The maximum well depth is not anticipated to exceed 40 feet bgs. However, actual well screen placement and total depth will be based on both field and analytical groundwater results. All deep wells will be installed to a depth that matches the deepest depth that groundwater contamination was identified during the geoprobe sampling, i.e. if groundwater contamination was present in the sample collected at 24 feet bgs, but was absent in the sample from 36 feet, the well would only be installed to a depth of approximately 30 feet bgs.

The monitoring wells will be constructed of two-inch diameter, clean, flush-threaded, two-inch diameter PVC well materials. The well screen will be five feet in length and will consist of 0.02-inch machine cut slots. In each well, a filter pack of #2 1/2 sand will be placed in the annular space between the well casing and boring walls, and extend from the bottom of the boring to approximately one (1) foot above the screened interval. Following placement of the sand filter

pack, each well will be surged with a surge block in an effort to settle the sand pack. Once field observations indicate that the sand pack has settled, the filter pack will be sealed by a two-foot layer of hydrated bentonite. The remaining annular space will be filled with cement bentonite grout, and surface construction of the wells will be completed with a locking, waterproof, flush mount, traffic-rated cover or a locking steel monument. Proposed deep monitoring well construction details are shown in Figure 8. Some deviation of the well construction may occur based upon field conditions.

4.2.8 Monitoring Wells Development and Groundwater Sampling

Approximately 72 hours after the installation of the wells, each well will be developed using a purge pump or equivalent equipment. Well development will continue until all fines are removed and no turbidity is visually present. A minimum of ten (10) well volumes will be removed during the developing process, unless the well goes dry, at which time well development will cease. During development, pH, conductivity, and temperature of the extracted water will be tested at regular intervals to verify that representative samples of formation groundwater are present in the well. Following well development, the wells will be allowed to recharge a minimum of 24 hours prior to sampling. The first sampling event (Well Installation Sampling Event) will be conducted at this time. Stabilized groundwater levels will be measured during this event. Three (3) well volumes of groundwater will be purged from the wells, again testing pH, conductivity, temperature, and turbidity for signs of representative formation waters. Groundwater samples will be taken from the wells with disposable PVC bailers or a peristaltic pump, stored in appropriate containers (i.e. VOA vials), placed in coolers with ice, kept at or below four degrees Celsius, and transported to a State certified laboratory under chain-of-custody documentation for analysis. If the well(s) contain any free product, the thickness of the product will be measured in the field using an oil-water interface meter and no groundwater sample will be collected.

4.2.9 Groundwater Monitoring Program

Following the initial sampling of the new wells, they will be incorporated into the groundwater monitoring program. The groundwater monitoring program consists of gauging all wells and collecting groundwater samples for laboratory analysis on a quarterly basis. Each monitoring event will consist of measuring the depth to groundwater, followed by the purging the well of a minimum three (3) well volumes, after which the well will be sampled for analysis. During purging activities, the extracted well water will be tested for pH, conductivity, temperature, and clarity for signs of representative formation waters. Groundwater samples will be collected from the wells with disposable PVC bailers or a peristaltic pump, stored in appropriate containers (i.e. VOA vials), placed in coolers with ice, kept at or below four degrees Celsius, and transported to a State of California certified laboratory under appropriate chain of custody documentation for analysis.

Groundwater monitoring will continue in all wells until either no contaminants are reported in a well for four (4) consecutive monitoring events or contaminant levels have reached low consistent levels. At that time, laboratory analysis of that well will be reduced to an annual occurrence; however, quarterly groundwater elevation measurements will continue.

4.2.10 Groundwater Analytical Methods

Grab groundwater samples from the borings and groundwater samples from the monitoring wells will be collected following standard EPA protocols. Based upon historical analytical results, all groundwater samples will be analyzed for TPHg, BTXE, MTBE, and five (5) fuel-oxygenates **following EPA Method 8260b** and TPHd and TPHmo using **EPA Method 8015**. Samples which report the presence of TPHmo and TPHd during the initial well sampling will have subsequent analysis conducted with a silica gel clean-up in an effort to remove any natural occurring long chained hydrocarbons. All laboratory analysis will be conducted by a state certified laboratory on a normal TAT, unless stated above.

4.2.11 Reporting

Following the completion of the Site investigation, a Report of Findings (RoF) report will be prepared that documents all activities and findings of the investigation. The report will be submitted approximately 75 days after the initial groundwater sampling event. Subsequent groundwater monitoring reports will be prepared and submitted approximately 60 days after the completion of the groundwater sampling.

4.3 Other Activities

In the vicinity of the Crescent Shell site are other leaking UST sites, the closest of which is the Site at a physical address of 1210 9th Street, Crescent City, California and is directly east of the Site. SounPacific will conduct a file review of these sites to determine groundwater flow directions and if releases from any of the adjacent sites are impacting the Crescent Shell site, or if the release from the Crescent Site is impacting any other sites.

5.0 SITE SANITATION PROCEDURES

All excavating and sampling equipment used in both the soil excavation and groundwater investigation will be cleaned prior to arriving at the Site. Sampling equipment will be decontaminated between sampling activities. Soil stockpiles of suspected contaminated soil will be placed on plastic sheeting, and surrounded with a berm to prevent run-off. If deemed necessary, the stockpiled soil may also be covered with plastic sheeting. Also, prior to leaving the Site, all equipment will be inspected to ensure no wastes are allowed to leave the Site. Rinsate generated from cleaning sampling equipment, will be contained in a portable washbasin and allow any rinsate to evaporate onsite

6.0 PROPOSED TIME SCHEDULE

The schedule for the subsurface investigation and excavation at Crescent Shell is as follows:

- Within two (2) weeks of the *Work Plan* approval the subcontractors will be contracted and the Work Plan implementation scheduled.
- The first phase of the work (Soil excavation and remediation) will commence within four (4) weeks of subcontractors are retained. The field work is expected to be completed within one (1) week.
- Within two (2) weeks of receiving laboratory results the sample data will be reviewed and then tabulated for the formal report
- Within eight (8) weeks will of the receipt of the initial laboratory report, a Report of Findings for the soil excavation and remediation will be prepared and submitted to the RWQCB.
- The second phase of the work (Groundwater site investigation) will commence following the backfilling of the soil excavation, unless the time period for the soil remediation is extended. In this situation, the Site investigation will commence, following the submittal of the Soil Excavation and Remediation RoF; however, it would not include the installation of monitoring well MW-10, the replacement well for existing well MW-1 that will likely be destroyed during the excavation of the contaminated soil, and new monitoring wells MW9 and MW9D.
- Within eight (8) weeks will of the receipt of the laboratory report, a Report of Findings for the groundwater investigation will be prepared and submitted to the RWQCB.

Project implementation dates are subject to agency approval, permitting, and equipment scheduling. If there is a deviation from the proposed schedule, all concerned parties will be notified at least five days before the proposed initiation. A two to three-day drilling program is expected. Laboratory results are expected four weeks after submitting samples, unless an accelerated time schedule is requested. The Report of Findings will encompass the field investigation, present findings, and recommendations regarding future activities at the Site.

7.0 CERTIFICATION

This Work Plan was prepared under the direct supervision of a California registered geologist at SounPacific. All information provided in this report including statements, conclusions and recommendations are based solely on field observations and analyses performed by a state-certified laboratory. SounPacific is not responsible for laboratory errors.

SounPacific promises to perform all its work in a manner used by members in similar professions working in the same geographic area. SounPacific will do whatever is reasonable to ensure that data collection is accurate. Please note however, that rain, buried utilities, and other factors can influence groundwater depths, directions, and other factors beyond what SounPacific could reasonably determine.

SounPacific

Prepared by:



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Project Manager



Reviewed by:



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Principal Geologist



Tables

Table 1
Water Levels
Crescent Shell
890 L Street
Crescent City, California 95531

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL	Thickness of Floating Product/ Feet	Corrected Adjusted Elevation/ feet Above MSL
MW-1	5/6/2002	13.41	36.78	7.70	29.08	----	----
	8/4/2002	13.44	36.78	9.88	26.90	----	----
	11/6/2002	13.42	36.78	11.69	25.09	----	----
	2/7/2003	13.47	36.78	3.97	32.81	----	----
	4/22/2003	13.65	36.78	3.82	32.96	----	----
	5/22/2003	13.65	36.78	5.64	31.14	SHEEN	----
	6/26/2003	13.65	36.78	8.01	28.77	0.01	28.77
	7/22/2003	13.65	36.78	9.00	27.78	0.00	27.78
	8/25/2003	13.65	36.78	9.92	26.86	0.00	26.86
	9/22/2003	13.65	36.78	10.51	26.27	0.00	26.27
	10/23/2003	13.65	36.78	11.11	25.67	0.00	25.67
	11/25/2003	13.65	36.78	10.63	26.15	0.00	26.15
	12/16/2003	13.65	36.78	7.41	29.37	0.00	29.37
	1/23/2004	13.65	36.78	4.41	32.37	0.00	32.37
	2/24/2004	13.65	36.78	2.60	34.18	0.00	34.18
	3/26/2004	13.65	36.78	4.51	32.27	0.00	32.27
	4/29/2004	13.65	36.78	5.75	31.03	0.00	31.03
	7/30/2004	13.68	36.78	9.94	26.84	0.00	26.84
	11/2/2004	13.67	36.78	10.39	26.39	0.00	26.39
	1/30/2005	13.40	36.78	6.76	30.02	0.00	30.02
	4/11/2005	13.39	36.78	3.60	33.18	0.00	33.18
	7/10/2005	13.40	36.78	8.05	28.73	0.00	28.73
	10/15/2005	13.70	36.78	10.69	26.09	0.00	26.09
	1/24/2006	13.40	36.78	3.30	33.48	0.00	33.48
MW-2	5/6/2002	13.48	37.20	9.25	27.95	----	----
	8/4/2002	13.49	37.20	11.24	25.96	----	----
	11/6/2002	13.50	37.20	12.90	24.30	----	----
	2/7/2003	13.52	37.20	6.38	30.82	----	----
	4/22/2003	13.41	37.20	6.33	30.87	----	----
	5/22/2003	13.41	37.20	7.74	29.46	0.00	29.46
	6/26/2003	13.41	37.20	9.58	27.62	0.00	27.62
	7/22/2003	13.41	37.20	10.43	26.77	0.00	26.77
	8/25/2003	13.41	37.20	11.26	25.94	0.00	25.94
	9/22/2003	13.41	37.20	11.8	25.40	0.00	25.4
	10/23/2003	13.41	37.20	12.35	24.85	0.00	24.85
	11/25/2003	13.41	36.78	12.83	23.95	0.00	23.95
	12/16/2003	13.41	36.78	7.89	28.89	0.00	28.89
	1/23/2004	13.41	37.20	6.69	30.51	0.00	30.51
	2/24/2004	13.41	37.20	4.37	32.83	0.00	32.83
	3/26/2004	13.41	37.20	6.33	30.87	0.00	30.87
	4/29/2004	13.41	37.20	7.65	29.55	0.00	29.55
	7/30/2004	13.74	37.20	11.27	25.93	0.00	25.93
	11/2/2004	13.43	37.20	11.55	25.65	0.00	25.65
	1/30/2005	13.75	37.20	8.37	28.83	0.00	28.83
	4/11/2005	13.77	37.20	5.58	31.62	0.00	31.62
	7/10/2005	13.72	37.20	9.57	27.63	0.00	27.63
	10/15/2005	13.45	37.20	11.94	25.26	0.00	25.26
	1/24/2006	13.78	37.20	5.60	31.60	0.00	31.60

Table 1 (cont.)
Water Levels
Crescent Shell
890 L Street
Crescent City, California 95531

Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL	Thickness of Floating Product/ Feet	Corrected Adjusted Elevation/ feet Above MSL
MW-4	4/22/2003	18.92	36.86	5.20	31.66	----	----
	5/22/2003	18.91	36.86	6.74	30.12	0.01	30.13
	6/26/2003	18.92	36.86	9.64	27.22	0.01	27.23
	7/22/2003	18.92	36.86	9.51	27.35	0.01	27.36
	8/25/2003	18.92	36.86	10.38	26.48	0.01	26.49
	9/22/2003	18.92	36.86	10.94	25.92	0.00	25.92
	10/23/2003	18.92	36.86	11.52	25.34	0.00	25.34
	11/25/2003	18.92	36.78	11.04	25.74	0.00	25.74
	12/16/2003	18.92	36.78	8.05	28.73	0.00	28.73
	1/23/2004	18.92	36.86	5.65	31.21	0.00	31.21
	2/24/2004	18.92	36.86	3.82	33.04	0.00	33.04
	3/26/2004	18.92	36.86	5.79	31.07	0.00	31.07
	4/29/2004	18.92	36.86	6.79	30.07	0.00	30.07
	7/30/2004	18.91	36.86	10.43	26.43	0.00	26.43
	11/2/2004	18.91	36.86	10.83	26.03	0.00	26.03
	1/30/2005	18.91	36.86	7.54	29.32	0.00	29.32
	4/11/2005	18.93	36.86	4.82	32.04	0.00	32.04
	7/10/2005	18.95	36.86	8.67	28.19	0.00	28.19
	10/15/2005	18.95	36.86	11.10	25.76	0.00	25.76
	1/24/2006	18.92	36.86	4.62	32.24	0.00	32.24
MW-5	4/22/2003	18.83	37.27	6.17	31.10	----	----
	5/22/2003	18.87	37.27	7.60	29.67	0.01	29.68
	6/26/2003	18.83	37.27	9.46	27.81	SHEEN	----
	7/22/2003	18.83	37.27	10.31	26.96	SHEEN	----
	8/25/2003	18.83	37.27	11.17	26.10	0.00	26.10
	9/22/2003	18.83	37.27	11.71	25.56	0.00	25.56
	10/23/2003	18.83	37.27	12.26	25.01	0.00	25.01
	11/25/2003	18.83	36.78	12.77	24.01	0.00	24.01
	12/16/2003	18.83	36.78	8.09	28.69	0.00	28.69
	1/23/2004	18.83	37.27	6.53	30.74	0.00	30.74
	2/24/2004	18.83	37.27	4.39	32.88	0.00	32.88
	3/26/2004	18.83	37.27	6.41	30.86	0.00	30.86
	4/29/2004	18.83	37.27	7.55	29.72	0.00	29.72
	7/30/2004	18.81	37.27	11.18	26.09	0.00	26.09
	11/2/2004	18.86	37.27	11.48	25.79	0.00	25.79
	1/30/2005	18.79	37.27	8.26	29.01	0.00	29.01
	4/11/2005	18.78	37.27	5.51	31.76	0.00	31.76
	7/10/2005	18.87	37.27	9.47	27.80	0.00	27.80
	10/15/2005	18.86	37.27	11.83	25.44	0.00	25.44
	1/24/2006	18.77	37.27	5.47	31.80	0.00	31.80

Table 1 (cont.)
Water Levels
Crescent Shell
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Sample Location	Date	Depth to Bottom/ Feet BGS	Survey Height/ Feet Above MSL	Depth to Water/ Feet BGS	Adjusted Elevation/ Feet Above MSL	Thickness of Floating Product/ Feet	Corrected Adjusted Elevation/ feet Above MSL
MW-6	4/22/2003	18.74	37.80	7.35	30.45	----	----
	5/22/2003	18.69	37.80	8.73	29.07	SHEEN	----
	6/26/2003	18.74	37.80	10.48	27.32	0.00	27.32
	7/22/2003	18.74	37.80	11.31	26.49	0.00	26.5
	8/25/2003	18.74	37.80	12.13	25.67	0.00	25.67
	9/22/2003	18.74	37.80	12.67	25.13	0.00	25.13
	10/23/2003	18.74	37.80	13.18	24.62	0.00	24.62
	11/25/2003	18.74	36.78	12.66	24.12	0.00	24.12
	12/16/2003	18.74	36.78	8.42	28.36	0.00	28.36
	1/23/2004	18.74	37.80	7.71	30.09	0.00	30.09
	2/24/2004	18.74	37.80	5.24	32.56	0.00	32.56
	3/26/2004	18.74	37.80	7.15	30.65	0.00	30.65
	4/29/2004	18.74	37.80	8.60	29.20	0.00	29.20
	7/30/2004	18.69	37.80	12.14	25.66	0.00	25.66
	11/2/2004	18.63	37.80	12.37	25.43	0.00	25.43
	1/30/2005	18.70	37.80	9.26	28.54	0.00	28.54
	4/11/2005	18.68	37.80	6.51	31.29	0.00	31.29
	7/10/2005	18.64	37.80	10.47	27.33	0.00	27.33
	10/15/2005	18.65	37.80	11.78	26.02	0.00	26.02
	1/24/2006	18.61	37.80	6.57	31.23	0.00	31.23
MW-7	4/22/2003	18.31	36.88	4.3	32.57	----	----
	5/22/2003	18.30	36.88	5.95	30.93	0.00	30.93
	6/26/2003	18.31	36.88	8.29	28.59	0.00	28.59
	7/22/2003	18.31	36.88	9.29	27.59	0.00	27.59
	8/25/2003	18.31	36.88	10.23	26.65	0.00	26.65
	9/22/2003	18.31	36.88	10.81	26.07	0.00	26.07
	10/23/2003	18.31	36.88	11.38	25.50	0.00	25.50
	11/25/2003	18.31	36.78	10.84	25.94	0.00	25.94
	12/16/2003	18.31	36.78	6.75	30.03	0.00	30.03
	1/23/2004	18.31	36.88	4.80	32.08	0.00	32.08
	2/24/2004	18.31	36.88	2.65	34.23	0.00	34.23
	3/26/2004	18.31	36.88	4.59	32.29	0.00	32.29
	4/29/2004	18.31	36.88	5.93	30.95	0.00	30.95
	7/30/2004	18.30	36.88	10.21	26.67	0.00	26.67
	11/2/2004	18.22	36.88	10.53	26.35	0.00	26.35
	1/30/2005	18.31	36.88	6.84	30.04	0.00	30.04
	4/11/2005	18.23	36.88	3.76	33.12	0.00	33.12
	7/10/2005	18.45	36.88	8.30	28.58	0.00	28.58
	10/15/2005	18.42	36.88	10.95	25.93	0.00	25.93
	1/24/2006	18.40	36.88	3.62	33.26	0.00	33.26
MW-8	4/11/2005	14.20	37.88	7.32	30.56	0.00	30.56
	7/10/2005	14.22	37.88	10.92	26.96	0.00	26.96
	10/15/2005	14.20	37.88	13.07	24.81	0.00	24.81
	1/24/2006	14.17	37.88	7.41	30.47	0.00	30.47

Corrected Adjusted Elevation =
Groundwater Elevation + (Thickness of product x (density of pro
Density of product = 0.73 g/mL (density of oil)
Density of water = 1g/mL

Adjusted

Table 2
Soil Analytical Results
Crescent Shell
890 L Street
Crescent City, California 95531

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	TPHd (ppm)	TPHmo (ppm)	TPH (ppm)	Lead (ppm)
B-1 @ 4.5'	B-1	3/22/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	----	2.1	ND < 2.0	----	ND < 5
B-2 @ 4.5'	B-2	3/22/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	----	ND < 1.0	ND < 2.0	----	ND < 5
B.P.CC W-Oil Pipe	Piping Run	4/21/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	----	ND < 1.0	----	ND < 50	----
Oil Tank 5' South	UST Pit	4/21/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	----	ND < 1.0	----	ND < 50	----
Pipe Heat Oil	Piping Run	4/21/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	----	ND < 1.0	----	ND < 50	----
B.P.CC South 5'	UST Pit	4/21/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	----	3.1	----	56	----
B.P.CC North 5'	UST Pit	4/21/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	----	ND < 1.0	----	ND < 50	----
Oil Tank North 5'	UST Pit	4/21/1995	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	----	ND < 1.0	----	ND < 50	----
B-3 @ 7.5'	B-3	9/29/1997	1.2	ND < 0.005	ND < 0.005	0.0057	0.0059	ND < 0.05	6.8	58	----	----
B-3 @ 10.5'	B-3	9/29/1997	770	ND < 0.05	ND < 1.5	10.7	2.5	ND < 0.5	64	ND < 10	----	----
B-4 @ 5.5'	B-4	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-4 @ 10'	B-4	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-5 @ 6'	B-5	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-5 @ 10.5'	B-5	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-6 @ 5.5'	B-6	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-6 @ 10'	B-6	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	2.1	ND < 10	----	----
B-7 @ 5.5'	B-7	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-7 @ 10'	B-7	9/29/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-8 @ 5.5'	B-8	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-8 @ 10.5'	B-8	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	0.12	12	260	----	----
B-10 @ 5'	B-10	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
B-10 @ 10'	B-10	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
MW-1 @ 5.5'	MW-1	9/30/1997	20	ND < 0.005	ND < 0.04	ND < 0.4	ND < 0.2	0.069	4.5	ND < 10	----	----
MW-1 @ 11'	MW-1	9/30/1997	7,000	4.9	ND < 20	77	100	ND < 13	75	ND < 10	----	----
MW-2 @ 5'	MW-2	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	0.13	ND < 1.0	ND < 10	----	----
MW-2 @ 10'	MW-2	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	ND < 1.0	ND < 10	----	----
MW-3 @ 5'	MW-3	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	3.6	61	----	----
MW-3 @ 10'	MW-3	9/30/1997	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.05	15	330	----	----

Table 2 (cont.)
Soil Analytical Results
Crescent Shell
890 L Street
Crescent City, California 95531

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHmo (ppm)
B-1	B-1	1/10/2001	1.4	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	---	---	---	---		
B-2	B-2	1/10/2001	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	---	---	---	---		
B-3	B-3	1/10/2001	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	---	---	---	---		
B-4	B-4	1/10/2001	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	---	---	---	---		
E-1	E-1	1/10/2001	2.2	ND < 0.005	ND < 0.005	0.017	0.0051	ND < 0.005	---	---	---	---		
E-2	E-2	1/10/2001	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	---	---	---	---		
E-3	E-3	1/10/2001	2.7	0.011	0.13	0.264	0.045	0.0058	---	---	---	---		
E-4	E-4	1/10/2001	110	ND < 0.032	0.072	1.6	0.21	ND < 0.032	---	---	---	---		
E-6	E-6	1/10/2001	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	---	---	---	---		
E-7	E-7	1/10/2001	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	---	---	---	---		
E-8	E-8	1/10/2001	ND < 1.0	ND < 0.005	ND < 0.005	0.0075	ND < 0.005	ND < 0.005	---	---	---	---		
SP-165-B-11 @ 5'	B-11	4/3/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	----	----	----	----	ND < 10	20.0
SP-165-B-11 @ 8'	B-11	4/3/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	----	----	----	----	ND < 10	ND < 10
SP-165-B-12 @ 4'	B-12	4/3/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	----	----	----	----	ND < 10	ND < 10
SP-165-B-12 @ 8'	B-12	4/3/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	ND < 0.005	----	----	----	----	ND < 10	ND < 10
SP-165-B-13 @ 4'	B-13	4/3/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.007	----	----	----	----	ND < 10	ND < 10
SP-165-B-13 @ 6'	B-13	4/3/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.011	----	----	----	----	ND < 10	ND < 10
SP-165-B-13 @ 8'	B-13	4/3/2001	0.06	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.011	----	----	----	----	ND < 10	ND < 10
SP-165-B-14 @ 4'	B-14	4/2/2001	9.72	ND < 0.025	0.053	0.834	0.082	0.097	----	----	----	----	ND < 10	ND < 10
SP-165-B-14 @ 8'	B-14	4/2/2001	1,310	ND < 0.750	20.9	178	27	ND < 0.750	----	----	----	----	125	ND < 10
SP-165-B-15 @ 4'	B-15	4/2/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.026	----	----	----	----	ND < 10	ND < 10
SP-165-B-15 @ 5'	B-15	4/3/2001	2,900	ND < 0.750	ND < 0.750	318.3	50.9	ND < 5.0	----	----	----	----	2,480	23.0
SP-165-B-15 @ 8'	B-15	4/2/2001	4,100	ND < 7.5	12.5	421	71.8	ND < 7.5	----	----	----	----	2,700	150
SP-165-B-16 @ 4'	B-16	4/2/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.011	----	----	----	----	ND < 10	ND < 10
SP-165-B-16 @ 8'	B-16	4/2/2001	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.015	ND < 0.005	0.016	----	----	----	----	ND < 10	ND < 10

Table 2 (cont.)
Soil Analytical Results
Crescent Shell
890 L Street
Crescent City, California 95531

Sample ID	Sample Location	Sample Date	TPHg (ppm)	Benzene (ppm)	Toluene (ppm)	Xylenes (ppm)	Ethylbenzene (ppm)	MTBE (ppm)	DIPE (ppm)	TAME (ppm)	ETBE (ppm)	TBA (ppm)	TPHd (ppm)	TPHmo (ppm)
SB-27@3'	B-27	4/15/2003	3.7	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10
SB-27@5'	B-27	4/15/2003	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10
SB-27@10'	B-27	4/15/2003	1.3	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10
SB-27@14'	B-27	4/15/2003	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10
SB-27@20'	B-27	4/15/2003	ND < 1.0	ND < 0.005	ND < 0.005	ND < 0.01	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 1.0	ND < 10
SB-28@ 3'	B-28	2/28/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-28@6'	B-28	2/28/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	40
SB-28@8'	B-28	2/28/2005	23.2	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 5.00	ND < 10	ND < 10
SB-28@12'	B-28	2/28/2005	104	ND < 0.500	ND < 0.500	ND < 0.500	0.592	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 5.00	1,110	ND < 100
SB-29@4'	B-29	2/28/2005	7,410	ND < 12.5	26.2	726	132	ND < 12.5	ND < 12.5	ND < 12.5	ND < 12.5	ND < 125	1,240	ND < 100
SB-29@8'	B-29	2/28/2005	3,220	ND < 5.00	ND < 5.00	188	71.5	ND < 5.00	ND < 5.00	ND < 5.00	ND < 5.00	ND < 50.0	333	ND < 30
SB-29@12'	B-29	2/28/2005	6,480	ND < 12.5	ND < 12.5	999	172	ND < 12.5	ND < 12.5	ND < 12.5	ND < 12.5	ND < 125	ND < 10	ND < 10
SB-30@2'	B-30	2/28/2005	2,060	ND < 10.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 100	1,020	ND < 100
SB-30@5'	B-30	2/28/2005	2,840	ND < 5.00	ND < 5.00	ND < 5.00	14.1	ND < 5.00	ND < 5.00	ND < 5.00	ND < 5.00	ND < 50.0	1,170	ND < 100
SB-30@8'	B-30	2/28/2005	2,630	ND < 5.00	ND < 5.00	6.6	18.6	ND < 5.00	ND < 5.00	ND < 5.00	ND < 5.00	ND < 50.0	331	ND < 30
SB-30@10'	B-30	2/28/2005	5,480	ND < 10.0	ND < 10.0	10.1	36.4	ND < 10.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 100	3,430	ND < 500
SB-31@4'	B-31	2/28/2005	0.453	ND < 0.005	ND < 0.005	0.0058	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-31@6'	B-31	2/28/2005	0.840	0.014	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-31@9'	B-31	2/28/2005	17.0	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 5.00	ND < 10	15
SB-31@12'	B-31	2/28/2005	168	ND < 0.500	ND < 0.500	ND < 0.500	1.21	ND < 0.500	ND < 0.500	ND < 0.500	ND < 0.500	ND < 5.00	ND < 10	ND < 10
SB-32@4'	B-32	2/28/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-32@8'	B-32	2/28/2005	0.168	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-32@10'	B-32	2/28/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-32@12'	B-32	2/28/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-33@3'	B-33	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	26
SB-33@6'	B-33	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-33@9'	B-33	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-33@12'	B-33	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-34@3'	B-34	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-34@6'	B-34	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-34@9'	B-34	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-34@12'	B-34	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-35@3'	B-35	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-35@6.5'	B-35	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-35@9'	B-35	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10
SB-35@12'	B-35	3/1/2005	ND < 0.060	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.005	ND < 0.050	ND < 10	ND < 10

Notes:

TPHg: TPH as gasoline
MTBE: Methyl tertiary butyl ether
DIPE: Diisopropyl ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether

TBA: Tertiary butanol
TPHd: TPH as diesel
TPHmo: TPH as motor oil
ppm: parts per million = µg/gram = mg/kg = 1000 ppb
ND: Not detected. Sample was detected at or below the method detection limit as shown.

Table 3
Groundwater Analytical Results from Boreholes
Crescent Shell
890 L Street
Crescent City, California 95531

Sample ID	Sample Location	Sample Date	TPH _g (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPH _d (ppb)	TPH _{mo} (ppb)	TPH (ppb)	Lead (ppb)
B-1	B-1	3/22/1995	31,000	3,700	200	620	1,900	----	----	----	----	----	6,400	ND < 100	----	89
B-2	B-2	3/22/1995	160,000	25,000	16,000	14,000	4,000	----	----	----	----	----	4,600	ND < 100	----	72
B.P.CC	B.P.CC	4/21/1995	ND < 50	ND < 0.5	0.7	ND < 1.0	ND < 0.5	----	----	----	----	----	ND < 50	----	1,700	----
B-4	B-4	9/29/1997	250	ND < 0.5	ND < 5.0	1.6	1.0	ND < 5.0	----	----	----	----	51	ND < 500	----	----
B-5	B-5	9/29/1997	1,300	ND < 0.5	15	ND < 4.0	ND < 1.0	ND < 5.0	----	----	----	----	98	ND < 500	----	----
B-7	B-7	9/29/1997	110	ND < 0.5	ND < 2.0	ND < 1.0	ND < 0.5	ND < 5.0	----	----	----	----	ND < 50	ND < 500	----	----
B-9	B-9	9/30/1997	21,000	6,300	240	770	1,800	22,000	----	----	----	----	780	ND < 500	----	----
B-10	B-10	9/30/1997	1,800	89	ND < 10	13	50	10	----	----	----	----	350	ND < 500	----	----
E-GW	E-GW	1/10/2001	54,000	70	2,700	10,000	2,100	ND < 20	ND < 50	ND < 50	ND < 50	ND < 1,000	---	---	---	---
SP165-B-11 @ 10'	B-11	4/3/2001	9,440	505	45.6	575	1,960	16.0	----	----	----	----	2,360	ND < 50	----	----
SP165-B-11 @ 20'	B-11	4/3/2001	221	9.7	2.0	12.6	37.7	ND < 2.0	----	----	----	----	467	88.0	----	----
SP165-B-11 @ 30'	B-11	4/3/2001	361	4.8	6.1	33.0	16.4	ND < 2.0	----	----	----	----	1,980	82.0	----	----
SP165-B-11 @ 36'	B-11	4/3/2001	327	10.5	8.4	40.0	26.9	ND < 2.0	----	----	----	----	3,830	120	----	----
SP165-B-12 @ 10'	B-12	4/3/2001	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	3.7	----	----	----	----	108	ND < 50	----	----
SP165-B-12 @ 20'	B-12	4/3/2001	ND < 50	ND < 0.3	0.3	0.7	0.4	4.0	----	----	----	----	284	ND < 50	----	----
SP165-B-12 @ 30'	B-12	4/3/2001	ND < 50	ND < 0.3	0.3	1.7	0.9	ND < 2.0	----	----	----	----	380	ND < 50	----	----
SP165-B-12 @ 36'	B-12	4/3/2001	ND < 50	0.5	0.7	2.8	2.3	ND < 2.0	----	----	----	----	2,620	190	----	----
SP165-B-13 @ 10'	B-13	4/3/2001	1,110	ND < 3.0	ND < 3.0	ND < 6.0	ND < 3.0	ND < 20	----	----	----	----	302	ND < 50	----	----
SP165-B-13 @ 20'	B-13	4/3/2001	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	----	----	----	----	ND < 50	ND < 50	----	----
SP165-B-13 @ 30'	B-13	4/3/2001	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	----	----	----	----	143	ND < 50	----	----
SP165-B-13 @ 36'	B-13	4/3/2001	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	----	----	----	----	1,480	95.0	----	----
SP165-B-14 @ 10'	B-14	4/2/2001	902,000	4,260	8,870	184,000	16,500	ND < 20,000	----	----	----	----	775,000	3,730	----	----
SP165-B-14 @ 20'	B-14	4/2/2001	217	5.2	17.0	28.7	11.2	ND < 2.0	----	----	----	----	2,810	ND < 50	----	----
SP165-B-15 @ 10'	B-15	4/2/2001	7,660	789	69.7	849	489	2.3	----	----	----	----	1,730	ND < 50	----	----
SP165-B-15 @ 20'	B-15	4/2/2001	5,330	20.2	35.3	956	172	2.5	----	----	----	----	5,620	ND < 50	----	----
SP165-B-16 @ 10'	B-16	4/2/2001	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	----	----	----	----	70.0	ND < 50	----	----
SP165-B-16 @ 20'	B-16	4/2/2001	ND < 50	ND < 0.3	ND < 0.3	ND < 0.6	ND < 0.3	ND < 2.0	----	----	----	----	952	ND < 50	----	----
SBGW-17	B-17	4/16/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 200	ND < 2,000	----	----
SBGW-18	B-18	4/14/2003	52	6.0	ND < 0.5	ND < 1	ND < 0.5	0.8	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500	----	----
SBGW-19 @ 6.4'	B-19	4/14/2003	36,000	3,300	320	5,830	2,900	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	3,500	ND < 500	----	----
SBGW-19 @ 23'	B-19	4/14/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	0.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500	----	----
SBGW-20	B-20	4/14/2003	66	3.1	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500	----	----
SBGW-21	B-21	4/16/2003	5,300	8.1	1.5	7.2	260	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	540	ND < 500	----	----
SBGW-22	B-22	4/16/2003	340	2.4	ND < 0.5	ND < 1	9.8	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	160	ND < 500	----	----
SBGW-23	B-23	4/16/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	170	ND < 1,000	----	----
SBGW-28	B-28	2/28/2005	6,630	ND < 10.0	ND < 10.0	32.2	964	ND < 20.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 1,000	1,400	ND < 50	----	----
SBGW-29	B-29	2/28/2005	34,700	405	83.5	9,580	2,040	ND < 50.0	ND < 25.0	ND < 25.0	ND < 25.0	ND < 2,500	5,750	ND < 100	----	----
SBGW-30	B-30	2/28/2005	6,470	ND < 10.0	ND < 10.0	49.8	1,110	ND < 20.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 1,000	2,910	77	----	----
SBGW-31	B-31	2/28/2005	3,600	10.6	8.6	275	434	ND < 8.0	ND < 4.0	ND < 4.0	ND < 4.0	ND < 400	503	ND < 50.0	----	----
SBGW-32	B-32	2/28/2005	128	ND < 0.5	ND < 0.5	ND < 1.0	3.2	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50.0	69	ND < 50	----	----
SBGW-33	B-33	3/1/2005	3,300	7.3	ND < 0.5	8.0	10	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	ND < 10	490	ND < 170	----	----
SBGW-34	B-34	3/1/2005	23,000	2,900	81	1,600	2,000	ND < 12	ND < 1.0	1.8	ND < 1.0	ND < 10	740	ND < 170	----	----
SBGW-35	B-35	3/1/2005	810	9.4	ND < 0.5	1.4	39	ND < 1.0	ND < 1.0	ND < 1.0	ND < 1.0	ND < 10	75	ND < 170	----	----

Notes:

TPH_g: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tertiary butyl ether
DIPE: Diisopropyl ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether
TBA: Tertiary butanol

TPH_d: Total petroleum hydrocarbons as diesel
TPH_{mo}: Total Petroleum hydrocarbons as motor oil
TPH: Total petroleum hydrocarbons
ppb: parts per billion = µg/l = 1,000 mg/l = 0.001 ppm.
ND: Not detected at or above the method detection limit as shown.

Table 4
Groundwater Analytical Results From Monitoring Wells
Crescent Shell
890 L Street
Crescent City, California 95531

Sample Location	Annual Event	Sample Event	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-1	Second Quarter	First Quarterly	5/5/2002	52,800	ND < 300	ND < 300	ND < 300	3,730	ND < 300	ND < 500	ND < 500	ND < 500	ND < 100,000	3,180	822
	Third Quarter	Second Quarterly	8/3/2002	10,400	ND < 60	ND < 60	859	5,000	ND < 400	ND < 100	ND < 100	ND < 100	ND < 20,000	4,670	ND < 50
	Fourth Quarter	Third Quarterly	11/6/2002	6,030	ND < 60	103	313	4,370	349	ND < 100	ND < 100	ND < 100	ND < 20,000	2,080	ND < 50
	First Quarter	Fourth Quarterly	2/7/2003	14,000	32	37	212	2,200	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	1,800	ND < 500
	Second Quarter	Well Installation	4/22/2003	13,000	ND < 50	ND < 50	190	1,900	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	4,000	ND < 500
	Third Quarter	Fifth Quarterly	7/22/2003	920	11	40	266	1,100	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	6,800	ND < 500
	Fourth Quarter	Sixth Quarterly	10/23/2003	21,000	18	51	235	6,100	ND < 10	ND < 10	ND < 10	ND < 10	ND < 100	4,900	ND < 500
	First Quarter	Seventh Quarterly	1/23/2004	7,600	73	ND < 50	130	1,800	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	ND < 50	ND < 500
	Second Quarter	Eighth Quarterly	4/29/2004	16,000	ND < 50	ND < 50	91	2,000	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	4,400	ND < 500
	Third Quarter	Ninth Quarterly	7/30/2004	13,000	ND < 50	ND < 50	110	3,700	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	6,200	ND < 500
	Fourth Quarter	Tenth Quarterly	11/2/2004	14,000	ND < 50	76	304	4,200	ND < 50	ND < 50	ND < 50	ND < 50	ND < 500	4,100	ND < 500
	First Quarter	Eleventh Quarterly	1/30/2005	8,040	21.0	11.0	1,940	1,550	ND < 20.0	ND < 10.0	ND < 100	ND < 100	ND < 1,000	3,340	ND < 50
	Second Quarter	Twelfth Quarterly	4/11/2005	16,300	ND < 10	4,770	57.6	1,990	ND < 20.0	ND < 10.0	ND < 10.0	ND < 10.0	ND < 1,000	8,340	1,830
	Third Quarter	Thirteenth Quarterly	7/10/2005	22,200	34.0	2,220	4,560	2,180	ND < 50.0	ND < 25.0	ND < 25.0	ND < 25.0	ND < 2,500	16,100	2,690
	Fourth Quarter	Fourteenth Quarterly	10/15/2005	71,100	1,840	20,400	11,800	4,180	9,810	ND < 10.0	1,350	ND < 10.0	ND < 1000	3,420	ND < 50
MW-2	First Quarter	Fifteenth Quarterly	1/24/2006	6,110	5.8	ND < 4.0	18.3	916	ND < 8.0	ND < 4.0	ND < 4.0	ND < 4.0	ND < 400	2,930	80
	Second Quarter	First Quarterly	5/5/2002	1,440	5.1	ND < 0.3	2.6	54	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	380	ND < 50
	Third Quarter	Second Quarterly	8/3/2002	1,280	96.6	4.4	11.8	433	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	1,300	ND < 50
	Fourth Quarter	Third Quarterly	11/6/2002	479	75.1	4.1	15	237	ND < 2.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 100	379	ND < 50
	First Quarter	Fourth Quarterly	2/7/2003	470	2.2	ND < 0.5	ND < 1	0.6	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	90	ND < 500
	Second Quarter	Well Installation	4/22/2003	740	2.0	ND < 0.5	ND < 1	5.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	270	ND < 500
	Third Quarter	Fifth Quarterly	7/22/2003	2,000	11	1.8	10	120	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	530	ND < 500
	Fourth Quarter	Sixth Quarterly	10/23/2003	3,100	180	7.8	22	770	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	1,000	ND < 500
	First Quarter	Seventh Quarterly	1/23/2004	150	1.0	ND < 0.5	ND < 1	1.2	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Second Quarter	Eighth Quarterly	4/29/2004	1,400	1.1	ND < 0.5	ND < 1	8.2	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	300	ND < 500
	Third Quarter	Ninth Quarterly	7/30/2004	2,100	6.7	2.5	6.2	240	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	890	ND < 500
	Fourth Quarter	Tenth Quarterly	11/2/2004	2,000	12	ND < 5	ND < 15	720	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	560	ND < 500
	First Quarter	Eleventh Quarterly	1/30/2005	566	0.5	ND < 0.5	ND < 1.0	0.5	ND < 1.0	ND < 1.0	ND < 5.0	ND < 5.0	ND < 50	218	ND < 50
	Second Quarter	Twelfth Quarterly	4/11/2005	10,300	ND < 5.0	5,100	12.1	5.7	ND < 10.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 500	128,000	39,800
	Third Quarter	Thirteenth Quarterly	7/10/2005	1,670	3.3	63.2	159	29.3	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	31,300	7,150
	Fourth Quarter	Fourteenth Quarterly	10/15/2005	28,500	516	8,990	7060	1220	2060	ND < 5.0	388	ND < 5.0	ND < 500	434	71
	First Quarter	Fifteenth Quarterly	1/24/2006	190	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50

Table 4 (cont.)
Groundwater Analytical Results From Monitoring Wells
Crescent Shell
890 L Street
Crescent City, California 95531

Sample Location	Annual Event	Sample Event	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-4	Second Quarter	Well Installation	4/22/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	0.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarter	Fifth Quarterly	7/22/2003	78	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Sixth Quarterly	10/23/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Seventh Quarterly	1/23/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Second Quarter	Eighth Quarterly	4/29/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarter	Ninth Quarterly	7/30/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Tenth Quarterly	11/2/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Eleventh Quarterly	1/30/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50
	Second Quarter	Twelfth Quarterly	4/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	0.7	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	303	132
	Third Quarter	Thirteenth Quarterly	7/10/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50
	Fourth Quarter	Fourteenth Quarterly	10/15/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50
	First Quarter	Fifteenth Quarterly	1/24/2006	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50
MW-5	Second Quarter	Well Installation	4/22/2003	4,800	98	20	530	86	ND < 5.0	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	1,500	ND < 500
	Third Quarter	Fifth Quarterly	7/22/2003	130	5.3	ND < 0.5	4.4	7.2	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Sixth Quarterly	10/23/2003	130	22	ND < 0.5	2.6	13	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Seventh Quarterly	1/23/2004	170	3.9	ND < 0.5	ND < 0.5	3.2	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Second Quarter	Eighth Quarterly	4/29/2004	270	34	1.4	32.7	15	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarter	Ninth Quarterly	7/30/2004	73	11	ND < 0.5	2.2	11	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Tenth Quarterly	11/2/2004	140	26	0.5	13.0	25	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Eleventh Quarterly	1/30/2005	75.4	9.1	0.6	6.3	9.1	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 50	ND < 50	ND < 50
	Second Quarter	Twelfth Quarterly	4/11/2005	19,200	5.2	9,270	13.2	3.8	ND < 5.0	ND < 2.5	ND < 2.5	ND < 2.5	ND < 250	23,300	7,290
	Third Quarter	Thirteenth Quarterly	7/10/2005	16,600	68.0	2,120	3,970	655	ND < 50.0	ND < 25.0	ND < 25.0	ND < 25.0	ND < 2,500	156	ND < 50
	Fourth Quarter	Fourteenth Quarterly	10/15/2005	33,300	855	11,100	7,020	1,230	3,940	ND < 10.0	610	ND < 10.0	ND < 1,000	ND < 50	ND < 50
	First Quarter	Fifteenth Quarterly	1/24/2006	ND < 50	1.8	ND < 0.5	6.4	2.9	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	ND < 50	ND < 50

Table 4 (cont.)
Groundwater Analytical Results From Monitoring Wells
Crescent Shell
890 L Street
Crescent City, California 95531

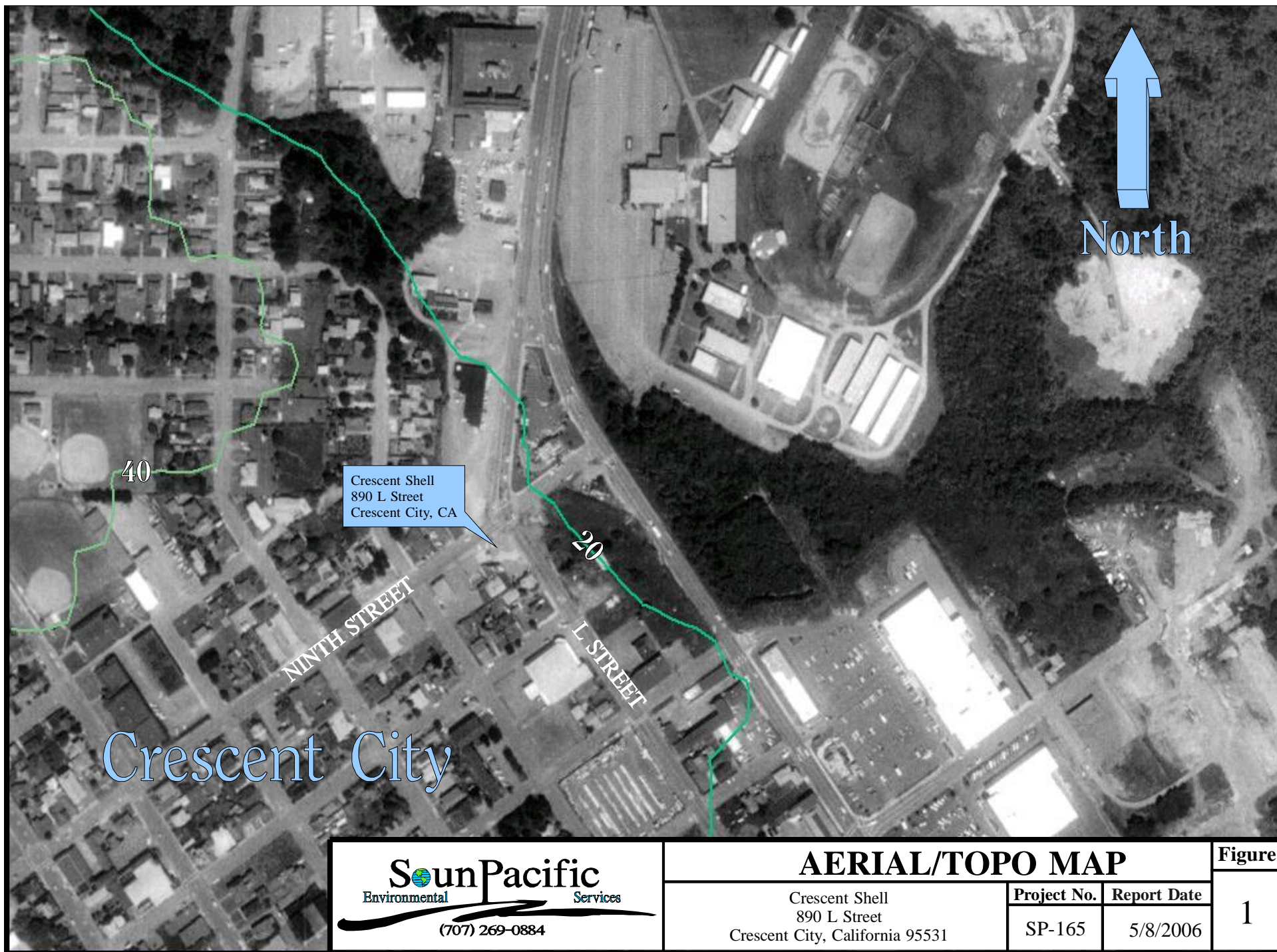
Sample Location	Annual Event	Sample Event	Sample Date	TPHg (ppb)	Benzene (ppb)	Toluene (ppb)	Xylenes (ppb)	Ethylbenzene (ppb)	MTBE (ppb)	DIPE (ppb)	TAME (ppb)	ETBE (ppb)	TBA (ppb)	TPHd (ppb)	TPHmo (ppb)
MW-6	Second Quarter	Well Installation	4/22/2003	82	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarter	Fifth Quarterly	7/22/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Sixth Quarterly	10/23/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Seventh Quarterly	1/23/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 5.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Second Quarter	Eighth Quarterly	4/29/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarter	Ninth Quarterly	7/30/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Tenth Quarterly	11/2/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	0.7	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Eleventh Quarterly	1/30/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 50
	Second Quarter	Twelfth Quarterly	4/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	183	94
	Third Quarter	Thirteenth Quarterly	7/10/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 50
	Fourth Quarter	Fourteenth Quarterly	10/15/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 50
	First Quarter	Fifteenth Quarterly	1/24/2006	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 50
MW-7	Second Quarter	Well Installation	4/22/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarter	Fifth Quarterly	7/22/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Sixth Quarterly	10/23/2003	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Seventh Quarterly	1/23/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Second Quarter	Eighth Quarterly	4/29/2004	75	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Third Quarter	Ninth Quarterly	7/30/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	Fourth Quarter	Tenth Quarterly	11/2/2004	ND < 50	ND < 0.5	ND < 0.5	ND < 1	0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 500
	First Quarter	Eleventh Quarterly	1/30/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 5.0	ND < 5.0	ND < 5.0	ND < 50	ND < 50
	Second Quarter	Twelfth Quarterly	4/11/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	150	140
	Third Quarter	Thirteenth Quarterly	7/10/2005	53.2	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 50
	Fourth Quarter	Fourteenth Quarterly	10/15/2005	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	ND < 50
	First Quarter	Fifteenth Quarterly	1/24/2006	ND < 50	ND < 0.5	ND < 0.5	ND < 1.0	ND < 0.5	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 5.0	ND < 50	90
MW-8	Second Quarter	Twelfth Quarterly	4/11/2005	5,710	785	614	653	680	ND < 12.5	ND < 6.2	ND < 6.2	ND < 6.2	ND < 625	40,600	12,300
	Third Quarter	Thirteenth Quarterly	7/10/2005	16,800	1,540	47.5	2,420	1,990	ND < 25.0	ND < 12.5	38.8	ND < 12.5	ND < 1,250	2,950	ND < 50
	Fourth Quarter	Fourteenth Quarterly	10/15/2005	37,200	2,920	8,110	7,340	3,160	1,950	ND < 10.0	331	ND < 10.0	ND < 1,000	2,670	52
	First Quarter	Fifteenth Quarterly	1/24/2006	2,400	80.3	2.4	55.2	143	ND < 1.0	ND < 0.5	ND < 0.5	ND < 0.5	ND < 50	1,010	71


Notes:

TPHg: Total petroleum hydrocarbons as gasoline
MTBE: Methyl tertiary butyl ether
DIPE: Diisopropyl ether
TAME: Tertiary amyl methyl ether
ETBE: Ethyl tertiary butyl ether

TBA: Tertiary butanol
TPHd: Total petroleum hydrocarbons as diesel
TPHmo: Total Petroleum hydrocarbons as motor oil
ppb: parts per billion = µg/l = 1,000 mg/l = 0.001 ppm.
ND: Not detected at or above the method detection limit as shown.

Figures



 <p>Soun Pacific Environmental Services (707) 269-0884</p>	AERIAL/TOPO MAP			Figure
	Crescent Shell 890 L Street Crescent City, California 95531	Project No.	Report Date	1
		SP-165	5/8/2006	

NINTH STREET

NORTH

L STREET (U.S. HWY 101)

T Sign W Power Pole T Sign T

PL Traffic Pole Sign

MW-1
(3) Former 5,000-gallon
Unleaded Gasoline USTs
Storm Drain
Former 4,000-gallon Unleaded Gasoline UST

Destroyed Monitoring Well MW-3

APN # 118-250-002

Former 550-gallon Waste Oil UST

MW-7

Former 1,000-gallon Heating Oil UST

Storm Drain

Former Pump Islands

MW-4

MW-5

MW-2

MW-6

W

APN # 118-250-006

APN # 118-250-005

APN # 118-250-007

APN # 118-250-013

MW-8

APN # 118-250-014

APN # 118-250-015

LEGEND

- Monitoring Well
- SHN Monitoring Well
- Water Valve
- Sewer Valve
- Traffic Control Box

0 30 60

APPROXIMATE SCALE IN FEET



SITE PLAN

Crescent Shell
890 L Street
Crescent City, California 95531

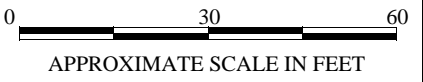
Project No.
SP-165

Report Date
5/8/06

Figure

2

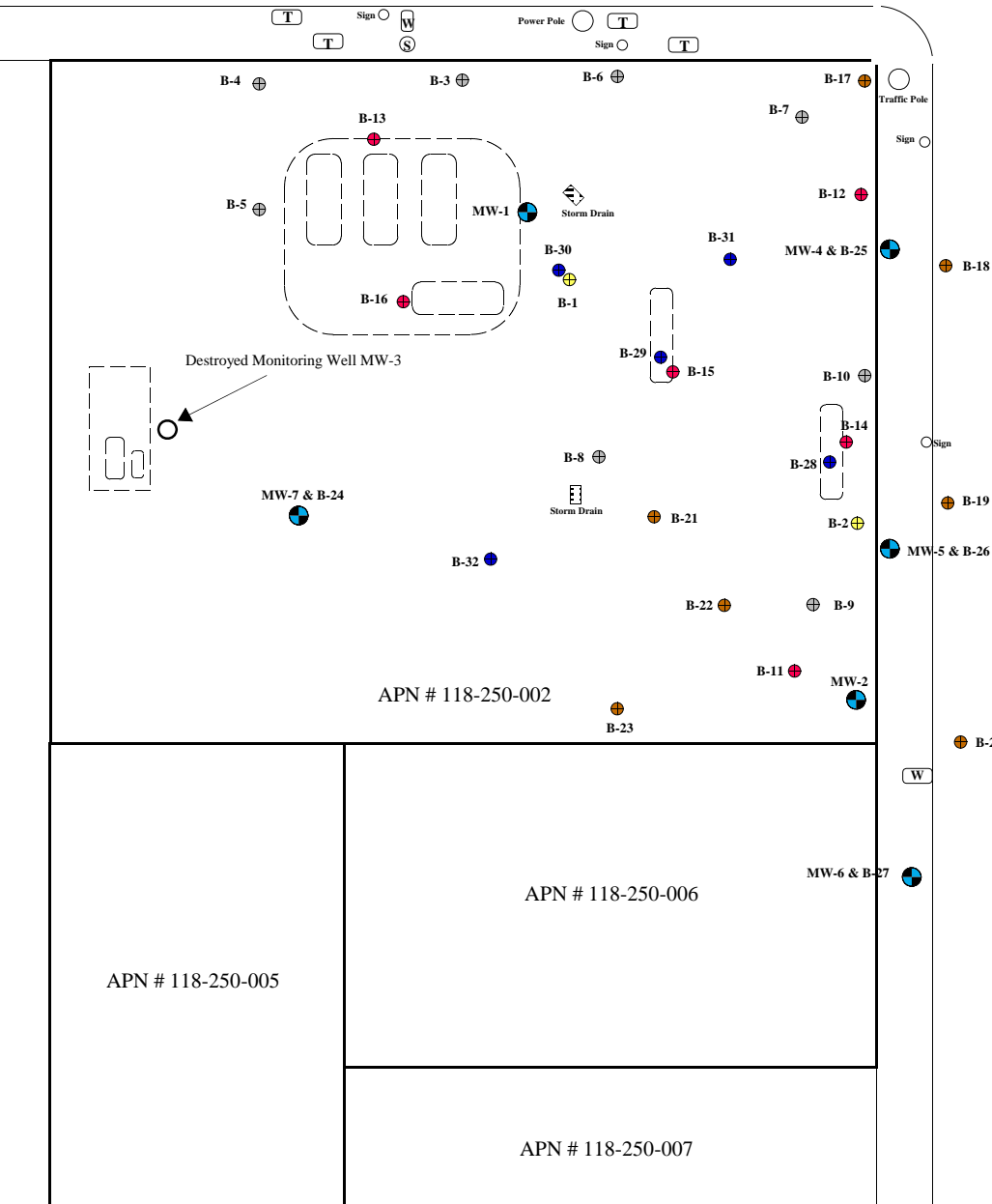
NORTH



NINTH STREET

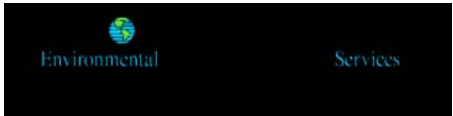
NORTH

L STREET (U.S. HWY 101)



LEGEND

- Soil Boring drilled 3/95
- Soil Boring drilled 9/97
- Soil Boring drilled 4/01
- Soil Boring drilled 4/03
- Soil Boring drilled 3/05
- Monitoring Well
- SHN Monitoring Well

PREVIOUS INVESTIGATIONS			Figure
	Crescent Shell 890 L Street Crescent City, California 95531	Project No. SP-165	Report Date 5/8/06
			4

NINTH STREET

NORTH

L STREET (U.S. HWY 101)

APN # 118-250-013

APN # 118-250-014

APN # 118-250-015

APN # 118-250-002

APN # 118-250-006

APN # 118-250-007

APN # 118-250-005

LEGEND

- Soil Boring drilled 3/95
- Soil Boring drilled 9/97
- Soil Boring drilled 4/01
- Soil Boring drilled 4/03
- Soil Boring drilled 3/05
- Monitoring Well
- SHN Monitoring Well

0 30 60
APPROXIMATE SCALE IN FEET



PROPOSED EXCAVATION

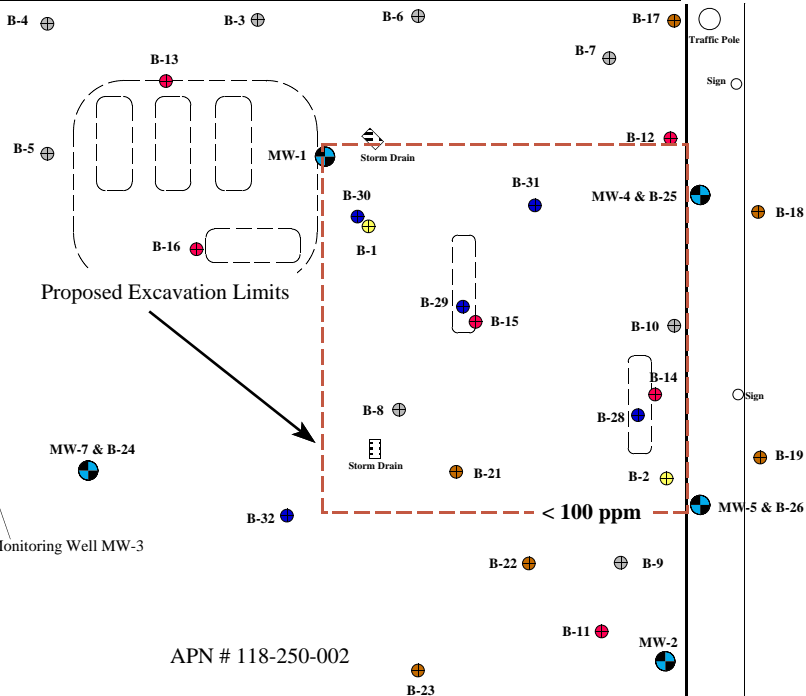
Crescent Shell
890 L Street
Crescent City, California 95531

Project No.
SP-165

Report Date
5/8/06

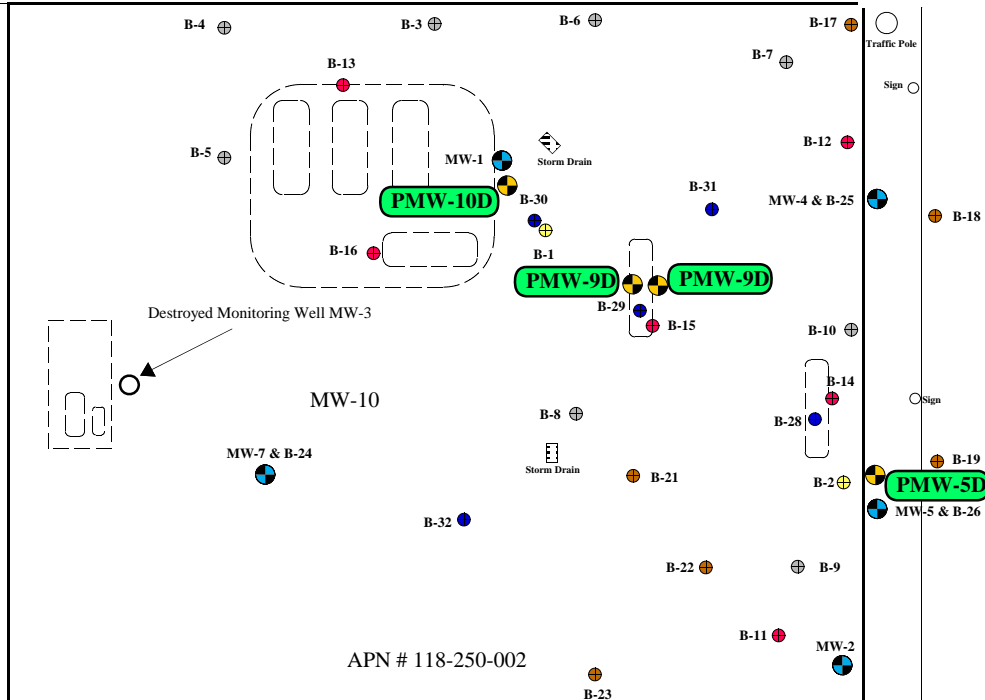
Figure

5



NINTH STREET

NORTH



APN # 118-250-005

APN # 118-250-006

APN # 118-250-007

APN # 118-250-013

PB-36

PB-37

PB-38

PB-39

PB-40

APN # 118-250-014

APN # 118-250-015

LEGEND

- Soil Boring drilled 3/95
- Soil Boring drilled 9/97
- Soil Boring drilled 4/01
- Soil Boring drilled 4/03
- Soil Boring drilled 3/05
- Monitoring Well
- SHN Monitoring Well

0 30 60

APPROXIMATE SCALE IN FEET



PROPOSED INVESTIGATION

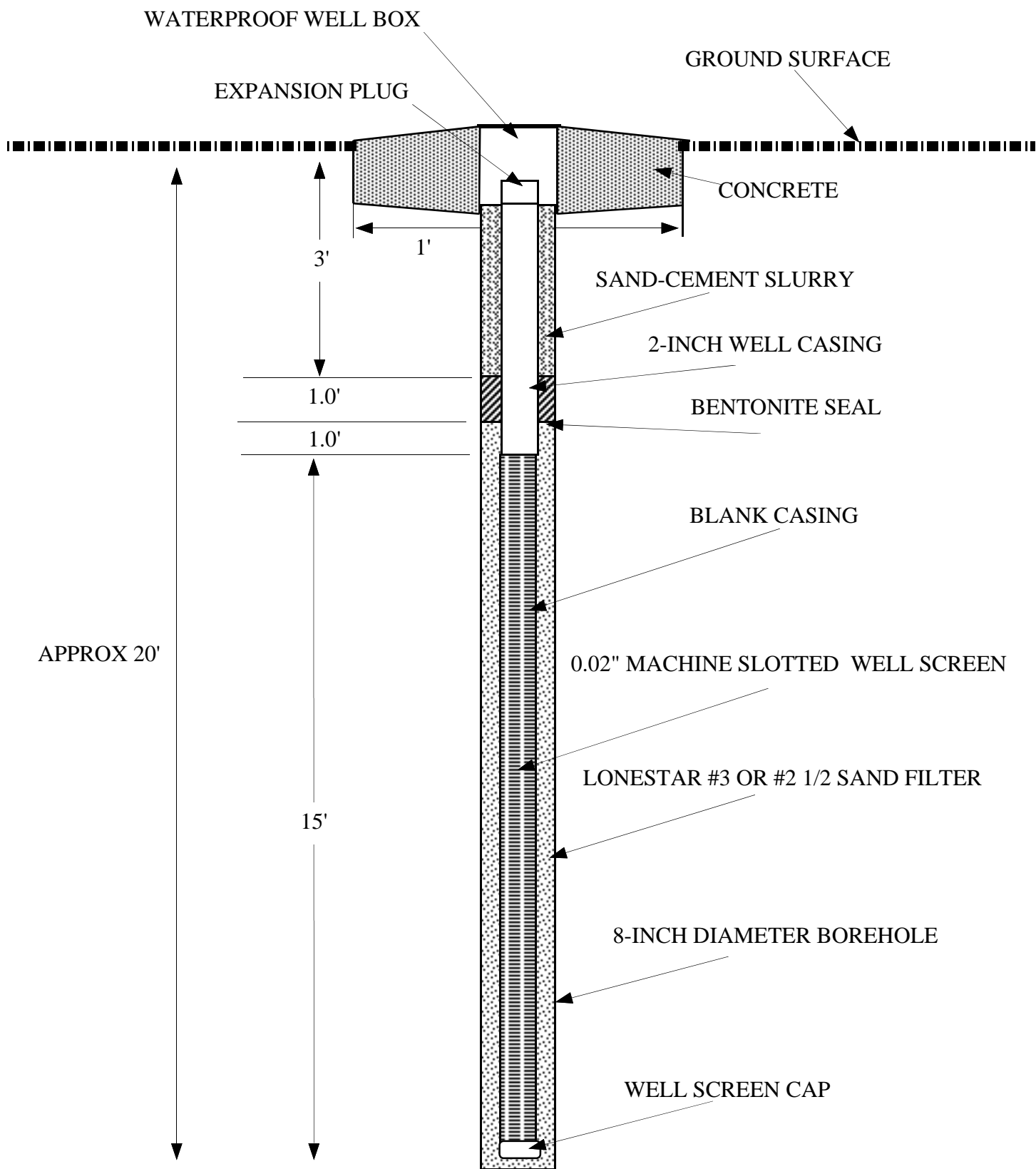
Crescent Shell
890 L Street
Crescent City, California 95531

Project No.
SP-165

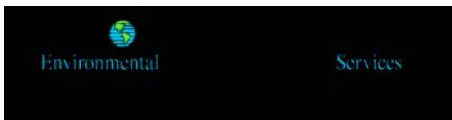
Report Date
5/8/06

Figure

6



Drawing Not to Scale



SHALLOW MONITORING WELL CONSTRUCTION DIAGRAM

Crescent Shell
890 L Street
Crescent City, CA 95531

Project No.

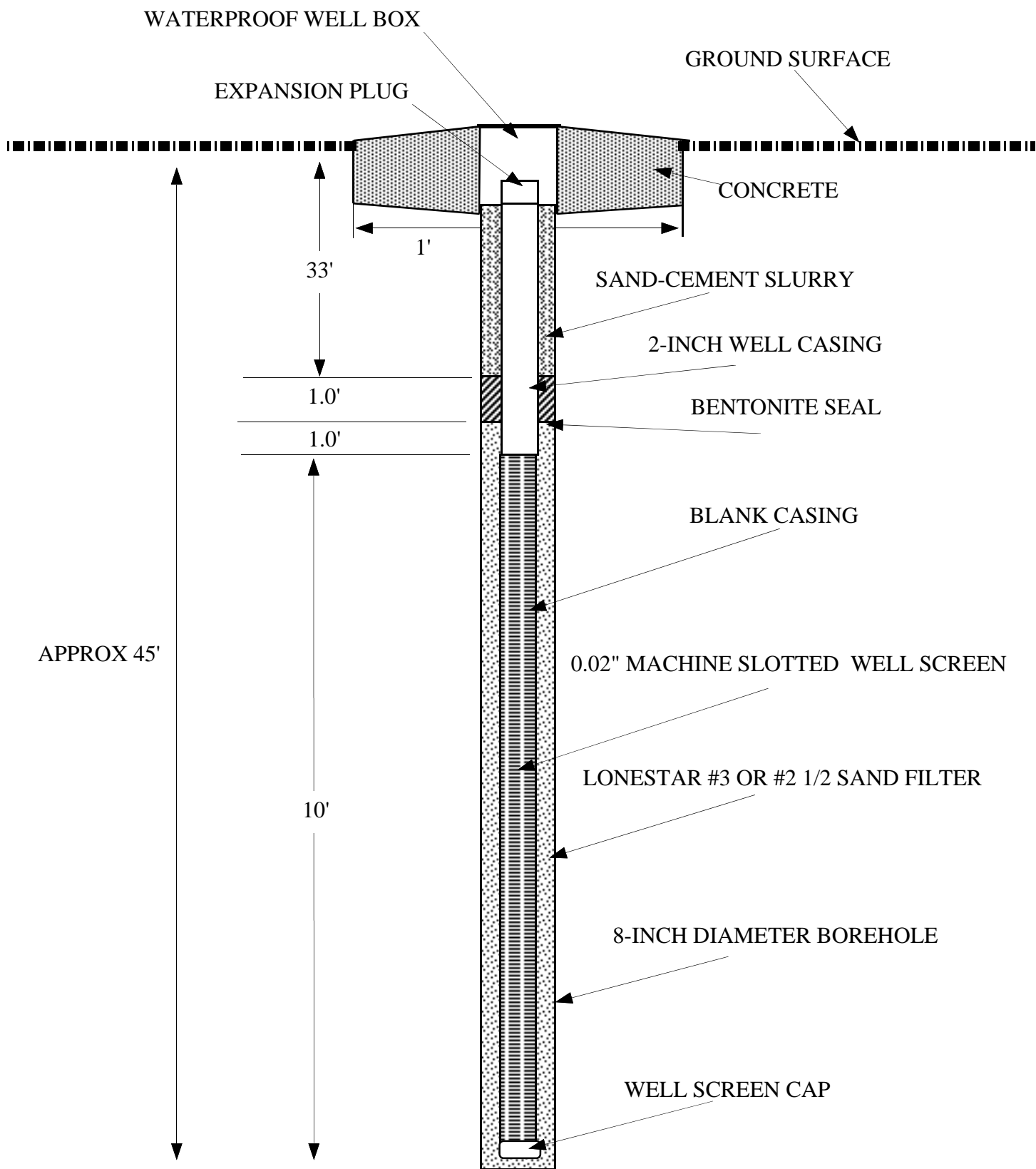
SP-165

Report Date

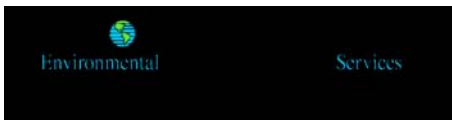
5/8/06

Figure

7



Drawing Not to Scale



DEEP MONITORING WELL CONSTRUCTION DIAGRAM

Crescent Shell
890 L Street
Crescent City, CA 95531

Project No.

SP-165

Report Date

5/8/06

Figure

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